



# HID Lamps and Gear



BBVA

# HID Lamps

Today, outdoor lighting is expected to do much more than simply enable us to see at night. Lighting has also become an essential tool that is widely used to create a more welcoming environment. Outdoor lighting, therefore now has both functional and decorative roles to play. In addition, the wide choice of lamps available means that there are many outdoor lighting solutions for each application area.

The best choice will depend on your needs, which can be cost of ownership, ambience or environment. Our lamps aim to meet some or all of these values. It provides a reference guide to the light properties of the full range of Philips lamps for outdoor lighting, and also indicates the application areas for which their benefits are most applicable.

## Road and tunnel lighting

Improves traffic safety for everyone on the road, and at the same time provides guidance and orientation. Here, the requirement is for lighting that is both functional and economical, combining optimum safety with the lowest costs of ownership. Lamps must have good lighting performance and energy efficiency, and every lamp must have a long lifetime. Reliability is essential, as traffic congestion during spot replacement of premature failures can be very expensive.

**The recommended HID families that anticipate upon these lamp specifications are MASTER SON PIA, MASTER SOX and Ceramic Metal Halide.**

## Urban lighting

Covers streets, parks and squares, shopping and leisure areas in city centers and can serve a decorative as well as an amenity role. In addition to safety and orientation, it is capable of providing comfort, ambience, identity and even spectacle, helping to create a new and beautiful nightscape for residents and visitors alike. The primary requirement is good light quality, expressed by the color rendering index and color temperature of the lamp. The choice of lighting for residential areas, once made solely on functional criteria, is increasingly influenced by a perceived need for improved amenity, and improved vision for safety. As a result, high-quality white light is now making an appearance. Because traffic speeds are relatively low, security and comfort for pedestrians and cyclists are as important a requirement as road lighting for motorised traffic.

**The ultimate HID choice is MASTER Cosmo White & MASTER City White, next to MASTER SON PIA in case functional requirements prevail.**



Urban architectural lighting of buildings, bridges, statues and gardens can also help to create a nightscape even more striking than the same area as seen by day.

Today's architectural lighting does not necessarily involve high light levels but models architectural features with color and shade. High light quality and even colored light sources are appropriate in this application.

**Compact HID lamps (Master Colour CDM & CDM Elite) next to Master SON & Master HPI** are most suitable for this application area.

### **Sports lighting**

Increases revenue by extending the activities of a sports club into the hours of darkness. Special care is needed with lighting design to avoid light entering players' eyes directly, wherever they may be in the playing area, and also to avoid light pollution in residential areas. In local **recreational facilities** and small clubs, the requirements are for functional lighting at low initial and running costs. Each lighting point should therefore provide high light output with a reasonable colour quality, and the lamps should have a long lifetime. As well as careful design to avoid glare and light spill, **professional sports lighting** must cater for the needs of colour TV coverage and photography. This requires extremely high light levels – three times those used in commercial offices – and superb colour rendering. Because of the limited burning period, lamp lifetime is a less important consideration than reliability.

**Dedicated lamps for these applications are the MASTER MHN-FC for recreational and MASTER MHN LA & SA for professional sports.**

### **Area lighting**

Covers a range of applications, industrial areas, transport and parking facilities, services and care institutes, etc. It has gained in importance with the appearance of large industrial estates outside or at the edges of urban areas. Its role is to provide orientation and safe working conditions in the hours of darkness as well as by day. Area lighting must be, functional, economical and reliable, and provide glare-free illumination without causing light pollution to the surrounding environment. Parking areas and loading and unloading zones often require better colour rendering than the other areas. High light levels with a good efficacy and reasonable colour rendering, together with a long service lifetime are usually the key criteria in area lighting.

**Recommended high power lamps are Quartz Metal Halide (MASTER HPI & MASTER MHN) as well as MASTER SON PIA**



MHN-SA X830R

**Product Description**

- Compact quartz metal halide lamps with double-pin

**Product Features**

- Very compact source (Short Arc) with high luminous efficacy and superior colour rendering
- Double-pin concept results in long lifetime
- Natural white colour appearance, high colour rendering and good colour stability
- Daylight colour temperature eases transition from daylight to artificial lighting

**Product Benefits**

- Allows compact and very efficient luminaire systems with high precision optics for good beam control and minimal spill light
- Very good colour rendering creates a pleasant ambience with high visual comfort for players and spectators
- Continuous spectral distribution offers a superior solution for (semi-) professional stadiums with regular TV coverage

**Application**

- Professional sports lighting and floodlighting

**Luminaires**

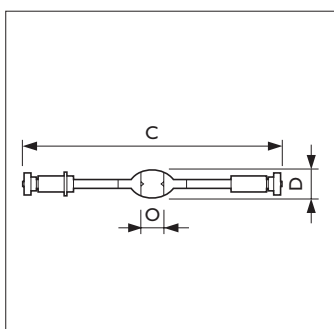
- MHN-SA lamps require UV-absorbing and protective front glass and correct thermal behaviour for optimal lamp performance

**Environment**

- This product is RoHS compliant
- This product is covered by WEEE

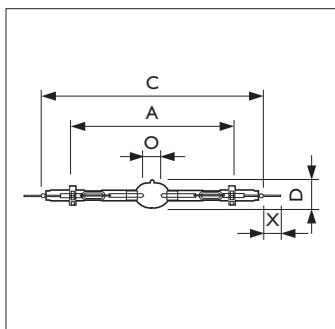
**Recommended gear page 3.170**

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MHN-SA (P)SFC

Type	CMax	DMax	ONom
MASTER MHN-SA 1800W/956 (P)SFC 230V UNP	364	41	25



MHN-SA XW



MHN-SA (P)SFC

Type	ANom	CMax	DMax	ONom	XNom
MASTER MHN-SA XW UNP	318	369	41	25	25

### Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER MHN-SA 1800W/856/956 230V XW/(P)SFC UNP	17.3	1800.0	120	230	1800	No	198	5000
MASTER MHN-SA 1800W/956 (P)SFC 400V UNP	10.5	1850.0	205	400	1800	No	342	5000
MASTER MHN-SA 2000W/956 400V XW UNP	11.3	2040.0	205	400	2000	No	360	5000

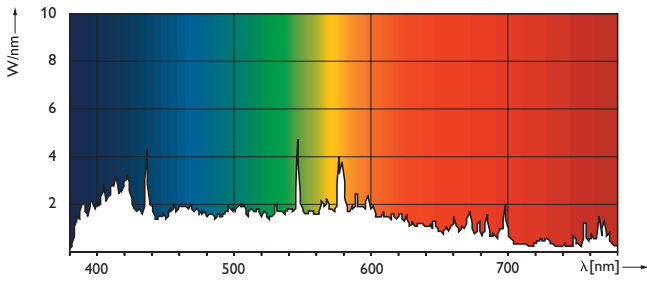
### Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER MHN-SA 1800W/856 230V XW UNP	170000	95	Daylight	5600	85	330	360	p15
MASTER MHN-SA 1800W/956 230V XW/(P)SFC UNP	155000	86	Daylight	5600	90	330	339	p15
MASTER MHN-SA 1800W/956 (P)SFC 400V UNP	160000	86	Daylight	5600	90	330	339	p15
MASTER MHN-SA 2000W/956 400V XW UNP	200000	98	Daylight	5600	90	330	362	p15

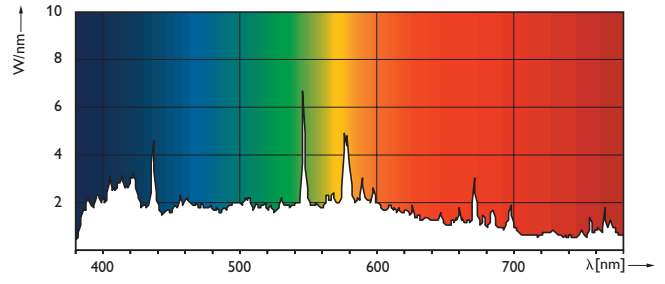
### Ordering and packing data

Type	ILCOS	EAN code I piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER MHN-SA 1800W/856 230V XW UNP	MN-1800-H-X830R-/H	8711500202680	0.107 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500202680	202680 00
MASTER MHN-SA 1800W/956 230V XW UNP	MN-1800-H-X830R-/H	8711500201065	0.107 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500201065	201065 00
MASTER MHN-SA 1800W/956 (P)SFC 230V UNP	MN-1800-H-PSFc20=6-/H	8711500200754	0.219 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200754	200754 00
MASTER MHN-SA 1800W/956 (P)SFC 400V UNP	MN-1800-E-PSFc20=6-/H	8711500200761	0.22 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200761	200761 00
MASTER MHN-SA 2000W/956 400V XW UNP	MN-2000-E-X830R-/H	8711500200792	0.107 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200792	200792 00

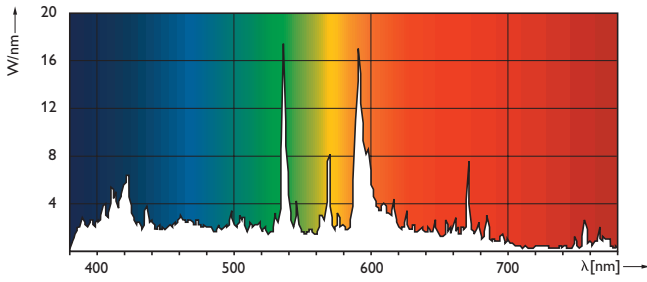
**Spectral power distribution**



MHN-SA 1800W 230V



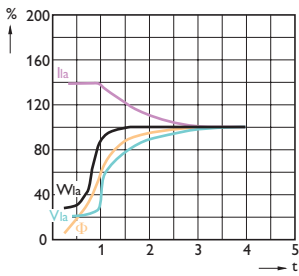
MHN-SA 1800W /956 400V



MHN-SA 2000W /956 400V

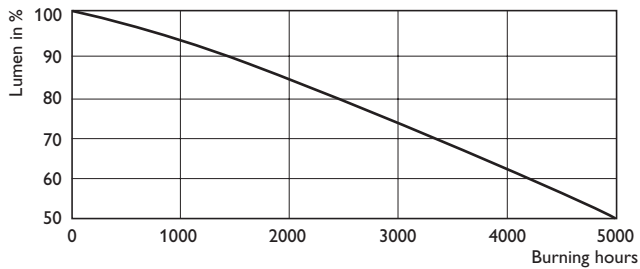
**Performance diagram**

Lamp performance during run up

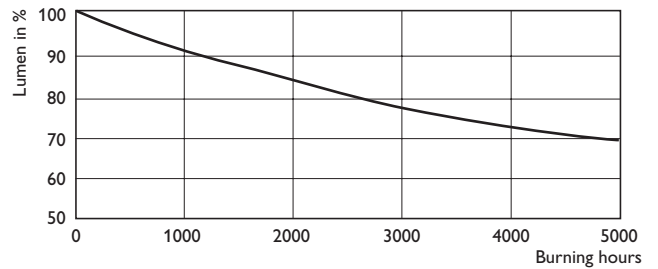


MHN-SA

**Lumen maintenance diagram**



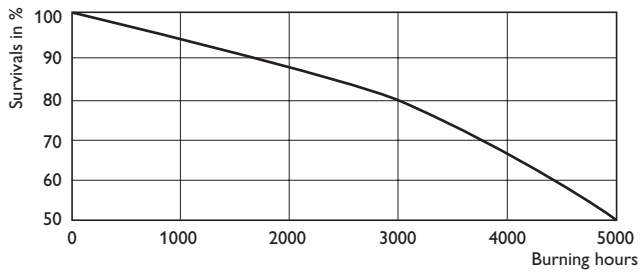
MHN-SA 1800W /856/956 230V/400V



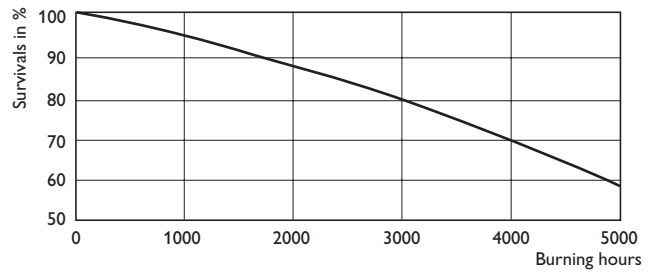
MHN-SA 2000W /956 400V



**Life expectancy diagram**

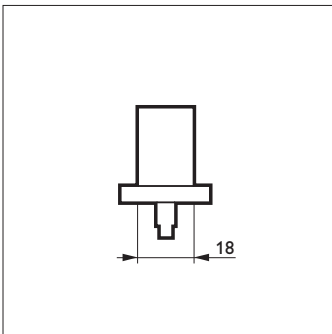


MHN-SA 1800W /856/956 230V/400V



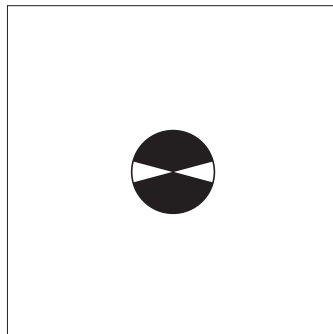
MHN-SA 2000W /956 400V

**Cap Base**



(P)SFC

**Operating position**



p15



MHN-LA 2000W

**Product Description**

- Compact quartz metal halide lamps with double-pin

**Product Features**

- Compact source (Long Arc) with high luminous efficacy
- Double-pin concept results in long lifetime
- Natural white colour appearance, high colour rendering and good colour stability
- Daylight colour temperature eases transition from daylight to artificial lighting

**Product Benefits**

- Allows compact and efficient luminaire systems with precision optics for good beam control and minimal spill light
- Good colour rendering creates a pleasant ambience with high visual comfort for players and spectators
- Continuous spectral distribution offers options for semi-professional stadiums and for professional stadiums with regular TV coverage

**Application**

- Professional and semi-professional sports lighting and floodlighting

**Luminaires**

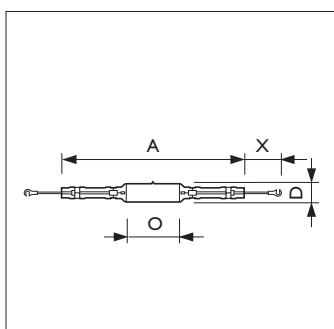
- MHN-LA lamps require UV-absorbing and protective front glass and correct thermal behaviour for optimal lamp performance

**Environment**

- This product is RoHS compliant.
- This product is covered by WEEE

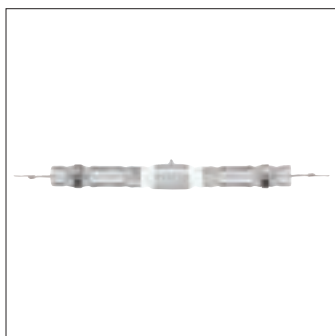
**Recommended gear page 3.170**

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MHN-LA

Type	ANom	DMax	ONom	XNom
MASTER MHN-LA 1000W/842/956 230V XWH UNP	294	40	40.5	35
MASTER MHN-LA 2000W/842/956 400V XWH UNP	364	40	108	58



MHN-LA 1000W

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER MHN-LA 1000W/842 230V XWH UNP	9.3	1040.0	125	230	1000	No	198	10000
MASTER MHN-LA 2000W/842 400V XWH UNP	9.6	2040.0	235	400	2000	No	342	12000
MASTER MHN-LA 2000W/956 400V XWH UNP	10.3	2040.0	225	400	2000	No	342	12000

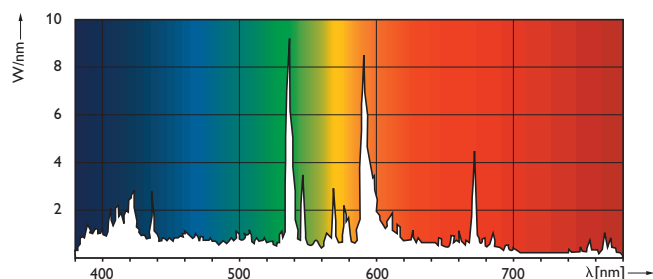
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER MHN-LA 1000W/842 230V XWH UNP	100000	96.2	Cool White	4200	80	370	370	p5
MASTER MHN-LA 1000W/956 230V XWH UNP	90000	86.5	Daylight	5600	90	330	339	p5
MASTER MHN-LA 2000W/842 400V XWH UNP	220000	108	Cool White	4200	80	370	370	p5
MASTER MHN-LA 2000W/956 400V XWH UNP	190000	93	Daylight	5600	90	330	339	p5

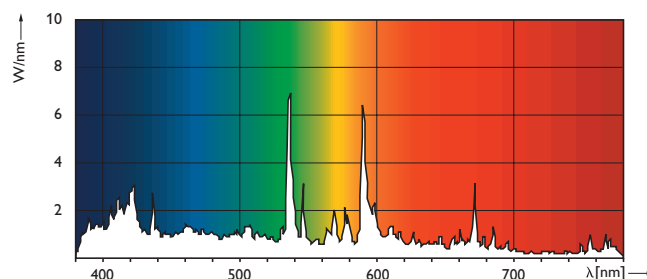
**Ordering and packing data**

Type	ILCOS	EAN code I piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER MHN-LA 1000W/842 230V XWH UNP	MN-1000-E-K-/H	8711500200785	0.141 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200785	200785 00
MASTER MHN-LA 1000W/956 230V XWH UNP	MN-1000-E-K-/H	8711500200778	0.137 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200778	200778 00
MASTER MHN-LA 2000W/842 400V XWH UNP	MN-2000-E-K-/H	8711500200747	0.172 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200747	200747 00
MASTER MHN-LA 2000W/956 400V XWH UNP	MN-2000-E-K-/H	8711500200730	0.168 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500200730	200730 00

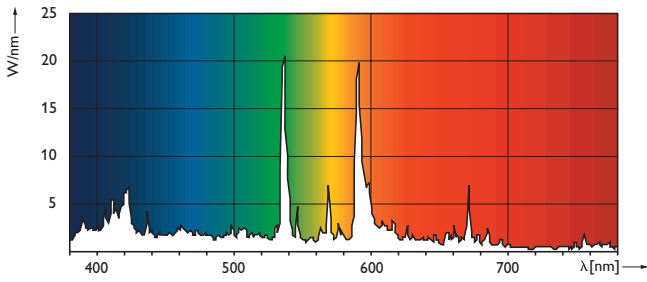
**Spectral power distribution**



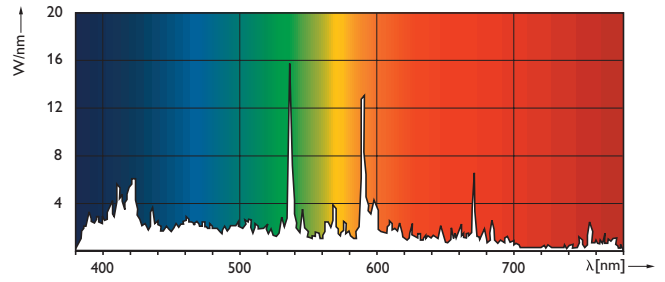
MHN-LA 1000W /842 230V



MHN-LA 1000W /956 230V



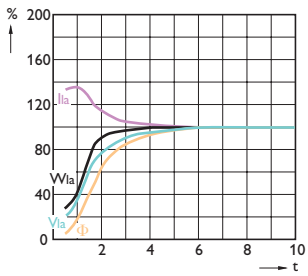
MHN-LA 2000W /842 400V



MHN-LA 2000W /956 400V

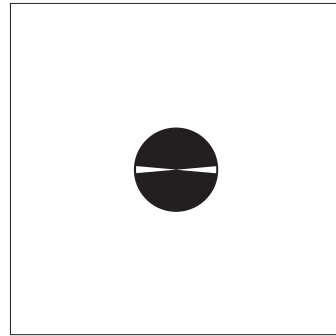
**Performance diagram**

Lamp performance during run up



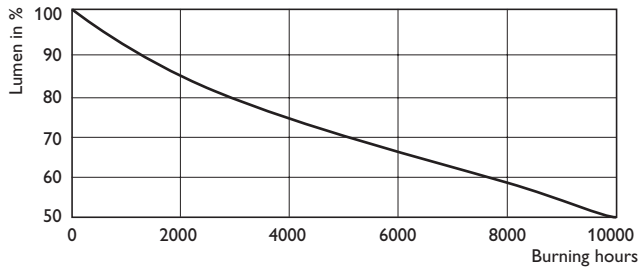
MHN-LA

**Operating position**

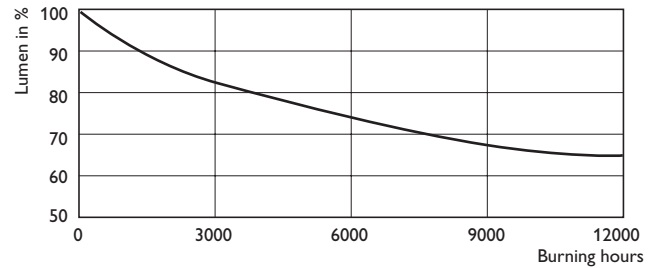


p5

**Lumen maintenance diagram**

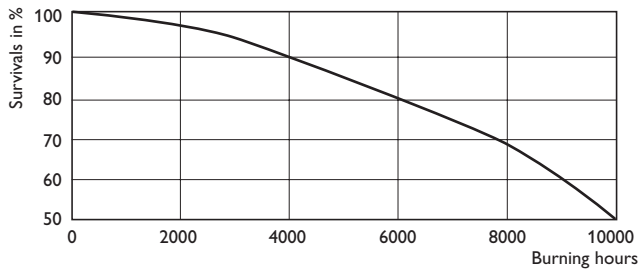


MHN-LA 1000W /842/956 230V

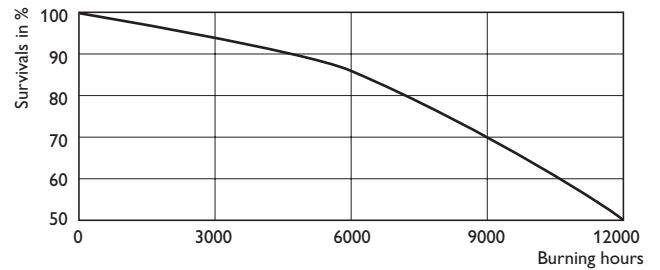


MHN-LA 2000W /842/956 400V

**Life expectancy diagram**



MHN-LA 1000W /842/956 230V



MHN-LA 2000W /842/956 400V



**Product Description**

- Compact quartz metal halide lamp with single pinch

**Product Features**

- Compact source (Short Base lamp dimensions) with short electrode distance and high luminous efficacy
- Single pinch concept with long lifetime
- Natural white colour appearance, good colour rendering and stability
- Daylight colour temperature eases transition from daylight to artificial lighting

**Product Benefits**

- Allows compact and efficient luminaire systems with precision optics for good beam control and minimal light spill
- Long lifetime and high reliability in Short Base outer dimensions to minimise service needs and maintenance costs
- Good colour rendering for a pleasant ambience with high visual comfort

**Application**

- Semi-professional sports, area and floodlighting

**Luminaires**

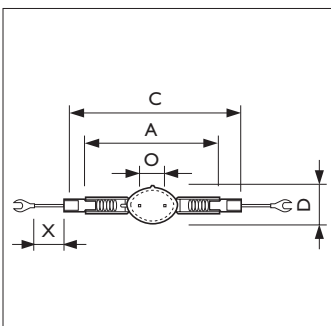
- Requires UV-absorbing and protective front glass
- Correct thermal conditions are required for optimal lamp performance

**Recommended gear page 3.170**

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MHN-SB



MHN-SB

Type	ANom	CMin	DMax	ONom	XNom
MHN-SB 2000W/956 400V K12s-7 WH UNP	157	187	41	25	50

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MHN-SB 2000W/956 400V K12s-7 WH UNP	11.5	2040	205	400	2000	No	360	-

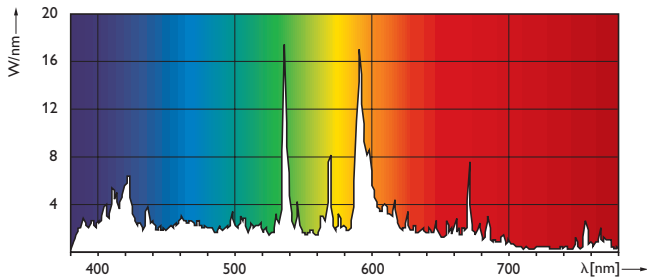
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MHN-SB 2000W/956 400V K12s-7 WH UNP	200000	100	Daylight	5600	90	325	355	p15

**Ordering and packing data**

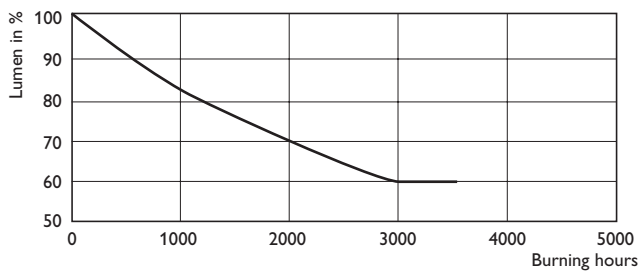
Type	ILCOS	EAN code I piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MHN-SB 2000W/956 400V K12s-7 WH UNP	MN-2000-E-Cable-/H	8711500206732	0.08 kg	8711500206732	43 cm x 9.5 cm x 8.5 cm	8711500206732	206732 00

**Spectral power distribution**



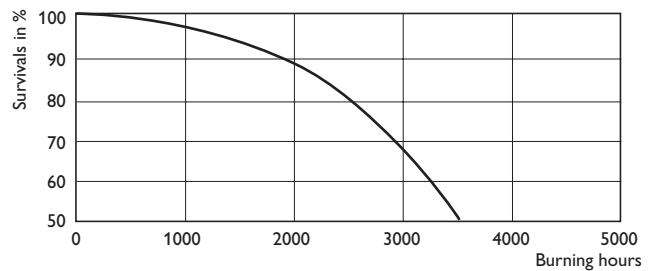
MHN-SB 2000W /956

**Lumen maintenance diagram**



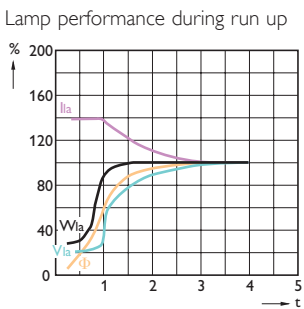
MHN-SB 2000W /956

**Life expectancy diagram**



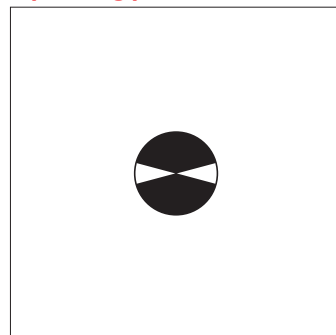
MHN-SB 2000W /956

**Performance diagram**



MHN-SB

**Operating position**



p15



HPI-T 2000W

**Product Description**

- Quartz metal halide lamps with clear outer bulb

**Product Features**

- Clear tubular outer bulb
- Unique 3-band technology resulting in high luminous efficacy, both initially and over long lifetime
- Renders a natural white colour appearance and good colour stability

**Product Benefits**

- High safety and comfort level, maintained over life
- Minimal maintenance cost

**Application**

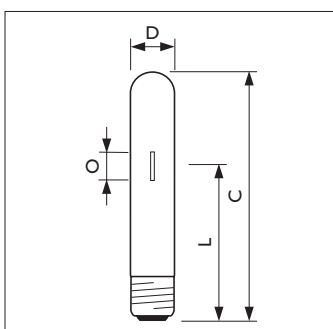
- Sports lighting, floodlighting of buildings and monuments, area lighting e.g. harbours and building sites

**Luminaires**

- HPI-T lamps require a protective front glass

**Recommended gear page 3.170**

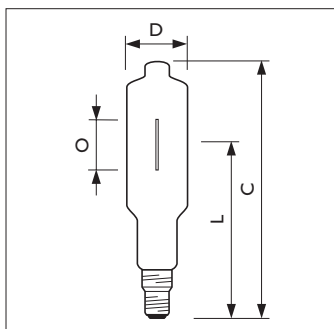
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HPI-T 1000W

Type	CMax	DMax	LNom	ONom
HPI-T 1000W/643 E40 220V CRP	382	66	240	80





HPI-T 2000W



HPI-T 1000W

Type	CMax	DMax	LNom	ONom
HPI-T 2000W/642 E40 380V CRP	430	101.5	267	120
HPI-T 2000W/646 E40 220V CRP	430	101.5	290	89

### Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
HPI-T 1000W/643 E40 220V CRP	8.25	985.0	130	220	1000	No	5000	198	12000
HPI-T 2000W/642 E40 380V CRP	9.1	1955	232	380	2000	No	5000	342	12000
HPI-T 2000W/646 E40 220V CRP	16.5	1960.0	130	220	2000	No	5000	198	12000

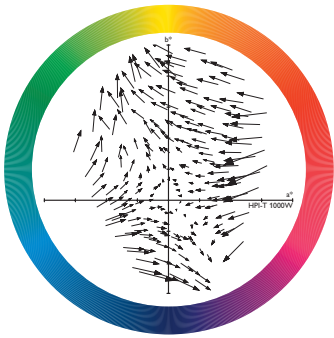
### Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
HPI-T 1000W/643 E40 220V CRP	85000	86	Cool White	4300	65	370	380	p20
HPI-T 2000W/642 E40 380V CRP	210000	107	Cool White	3800	65	397	403	p20
HPI-T 2000W/646 E40 220V CRP	189000	96	Cool White	4200	65	375	385	p75

### Ordering and packing data

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HPI-T 1000W/643 E40 220V CRP	MT-1000/43/2B-H-E40-/H	8711500183736	0.433 kg	4	18.6 cm x 18.6 cm x 42.6 cm	8711500183743	183736 45
HPI-T 2000W/642 E40 380V CRP	MT-2000/42/2B-H-E40-/H	8711500202352	0.616 kg	4	27.3 cm x 25.3 cm x 47.6 cm	8711500202369	202352 45
HPI-T 2000W/646 E40 220V CRP	MT-2000/46/2B-H-E40-/H	8711500183767	0.603 kg	4	27.3 cm x 25.3 cm x 47.3 cm	8711500183774	183767 45

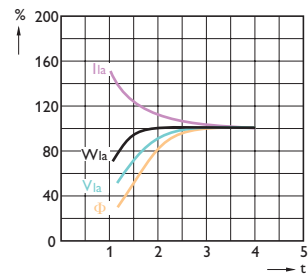
**CRV diagram**



HPI-T 1000W/2000W

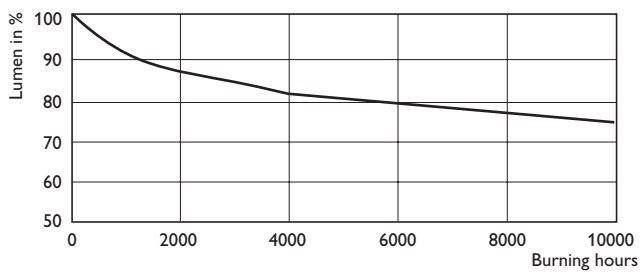
**Performance diagram**

Lamp performance during run up

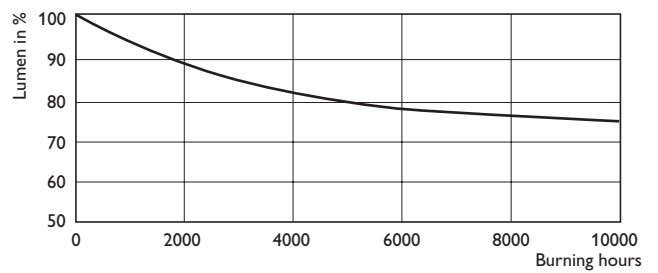


HPI-T

**Lumen maintenance diagram**

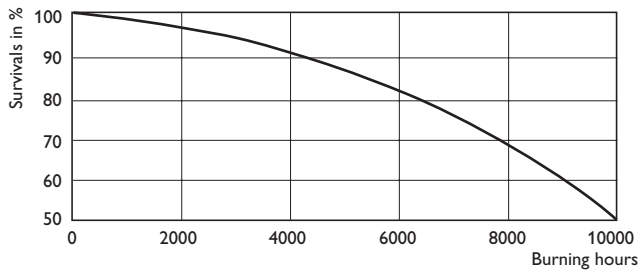


HPI-T 1000W/2000W /643/646

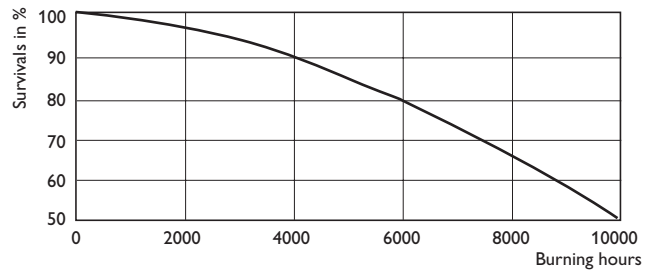


HPI-T 2000W /642

**Life expectancy diagram**

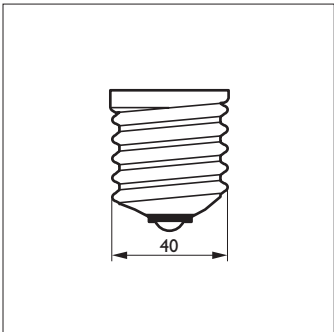


HPI-T 1000W/2000W /643/646



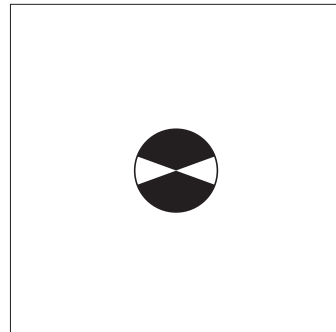
HPI-T 2000W /642

**Cap Base**

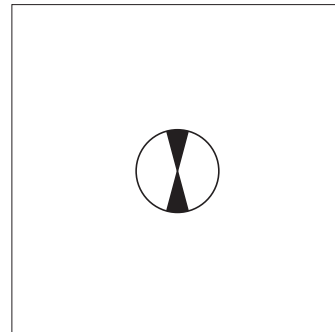


E40

**Operating position**



p20



p75





HPI-T

**Product Description**

- Quartz metal halide lamps with clear outer bulb

**Product Features**

- Clear tubular outer bulb
- Unique 3-band technology resulting in high luminous efficacy, both initially and over long lifetime
- Renders a natural white colour appearance and good colour stability

**Product Benefits**

- High safety and comfort level, maintained over life
- Minimal maintenance cost
- Initial investment saving options with “Plus”-concept

**Application**

- Sports lighting, floodlighting of buildings and monuments, area lighting e.g. harbours and building sites, canopy lighting e.g. petrol stations, horticultural lighting

**Luminaires**

- HPI-T Plus lamps require a protective front glass

**System**

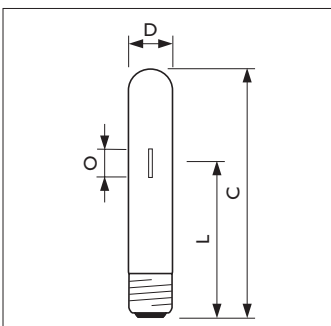
- Can be run on HPI-gear as well as on SON-gear (“Plus”-concept). The results in both light output and colour temperature are different

**Environment**

- Good environmental choice because of long service life
- This product is RoHS compliant
- This product is covered by WEEE

**Recommended gear page 3.170**

**[www.philips.com/OEM](http://www.philips.com/OEM)**



HPI-T

Type	CMax	DMax	LNom	ONom
MASTER HPI-T Plus 250W/645 E40 SLV	255	46.5	158	29
MASTER HPI-T Plus 400W/645 E40 SLV	286	46.5	180	40

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER HPI-T Plus 250W/645 E40 SLV	2.10	245	128	250	No	5000	198	20000
MASTER HPI-T Plus 400W/645 E40 SLV	3.4	382	125	400	No	5000	198	20000

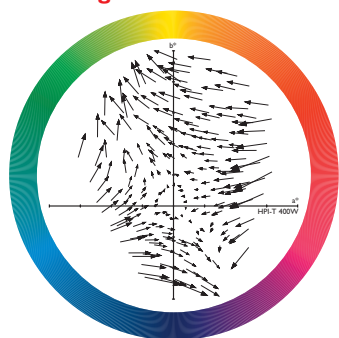
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER HPI-T Plus 250W/645 E40 SLV	20500	84	Cool White	4500	65	362	373	p20
MASTER HPI-T Plus 400W/645 E40 SLV	35000	89	Cool White	4500	65	362	370	p20

**Ordering and packing data**

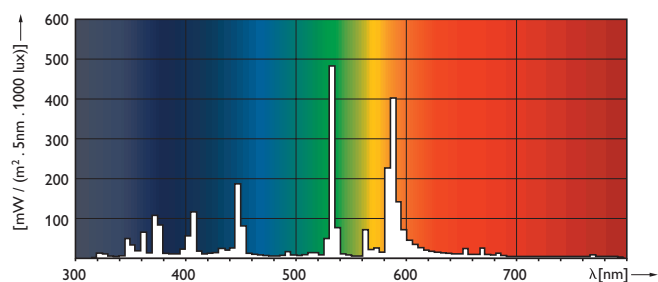
Type	ILCOS	EAN code l piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
MASTER HPI-T Plus 250W/645 E40 SLV	MT-250/45/2B-H-E40-/H	871 1500179890	0.161 kg	12	31.7 cm x 19.6 cm x 27.7 cm	871 1500182975	179890 15
MASTER HPI-T Plus 250W/645 E40 SLV	MT-250/45/2B-H-E40-/H	871 1500179890	0.161 kg	80	49.3 cm x 39.7 cm x 30.1 cm	871 1500210890	179890 70
MASTER HPI-T Plus 400W/645 E40 SLV	MT-400/45/2B-H-E40-/H	871 1500179906	0.18 kg	12	31.7 cm x 19.6 cm x 30.6 cm	871 1500182999	179906 15
MASTER HPI-T Plus 400W/645 E40 SLV	MT-400/45/2B-H-E40-/H	871 1500179906	0.18 kg	80	49.3 cm x 39.7 cm x 32.7 cm	871 1500210883	179906 70

**CRV diagram**



HPI-T 250W/400W

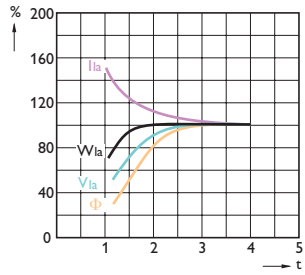
**Spectral power distribution**



HPI-T Plus 250W/400W

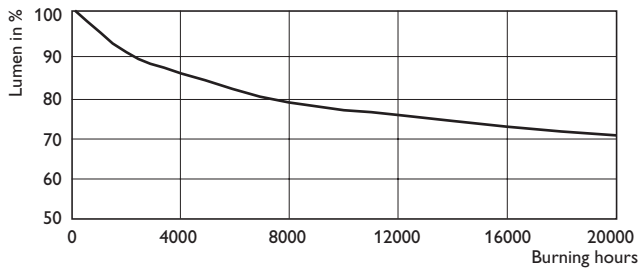
**Performance diagram**

Lamp performance during run up



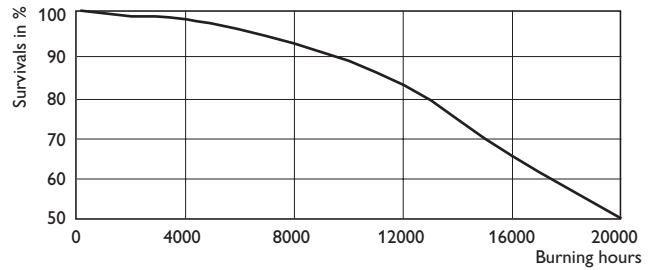
HPI-T

**Lumen maintenance diagram**



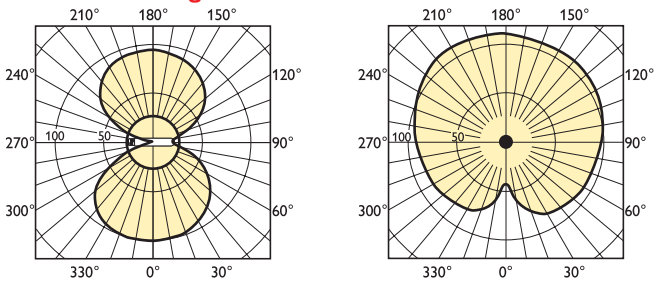
HPI-T 250W/400W /643/645

**Life expectancy diagram**



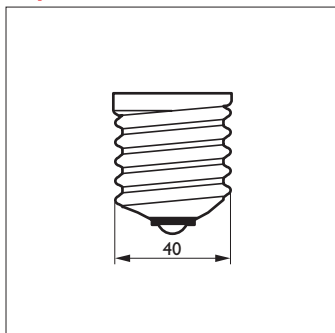
HPI-T 250W/400W /643/645

**Photometric diagram**



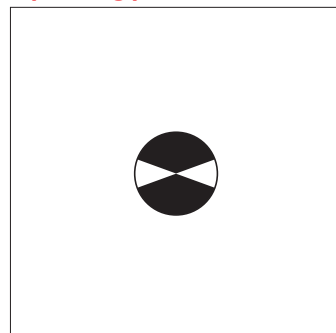
HPI-T

**Cap Base**



E40

**Operating position**



p20





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HPI

### Product Description

- Quartz metal halide lamps with opalized outer bulb

### Product Features

- Ovoid, internally white coated outer bulb
- Unique 3-band technology resulting in high luminous efficacy, both initially and over long lifetime
- Available in cool white and daylight colour appearance demonstrating good colour stability
- “S”-type for direct retrofit for HPL lamps
- “P”-type for use without protective front shield

### Product Benefits

- High safety and comfort level, maintained over life
- Minimal maintenance cost
- Initial investment saving options with “Plus”-concept and “S” and “P”-types
- Adjustable atmosphere creation by using appropriate colour temperature

### Application

- High bay lighting, e.g. industrial workshops, exhibition halls, supermarkets, shopping malls, DIY stores, churches, airports and train stations

### Luminaires

- HPI Plus BU-P and BUS-P suitable for use in open luminaires
- For other HPI Plus lamps a protective front glass is required

### System

- Can be run on HPI-gear as well as on SON-gear (“Plus”-concept). The results in both light output and colour temperature are different
- HPI Plus BUS and BUS-P types require an HPL-gear and no ignitor

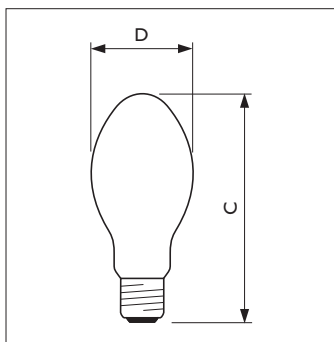
### Environment

- Good environmental choice because of long service life
- This product is RoHS compliant
- This product is covered by WEEE

**Recommended gear page 3.170**

**[www.philips.com/OEM](http://www.philips.com/OEM)**





HPI

Type	CMax	DMax
MASTER HPI Plus 250W/745/767 BU E40 CRP	284	121.5
MASTER HPI Plus 250W/745 BU-P E40 SLV	218	90
MASTER HPI Plus 400W/745/767 BU E40 CRP	286	121.5
MASTER HPI Plus 400W/745 BU-P E40 CRP	226	91
MASTER HPI Plus 400W/745 BU-P E40 SLV	290	117.5
MASTER HPI Plus 400W/745 HOR E40 CRP	290	122

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER HPI Plus 250W/745/767 BU E40 CRP/SLV	2.2	253	128	250	No	5000	198	20000
MASTER HPI Plus 400W/745/767 BU(-P) (BUS) E40 CRP/SLV	3.4	395	125	400	No	5000	198	20000
MASTER HPI Plus 400W/745 HOR E40 CRP	3.4	382	125	400	No	5000	198	20000
MASTER HPI Plus 400W/745 BUS E40 CRP/SLV	3.4	395	125	400	No	-	198	20000

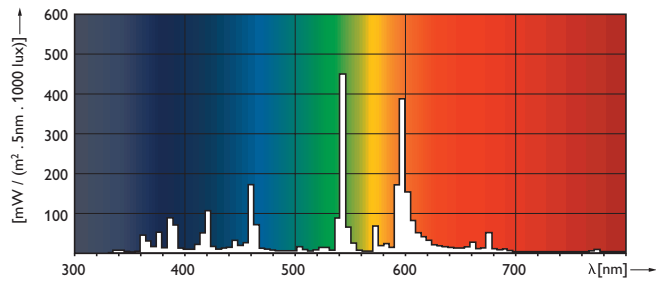
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER HPI Plus 250W/745 BU E40 CRP/SLV	18000	72	Cool White	4500	69	380	354	h15
MASTER HPI Plus 250W/767 BU E40 CRP	18000	72	Daylight	6700	69	308	318	h15
MASTER HPI Plus 400W/745 BU(-P) (BUS) E40 CRP/SLV	32500	82	Cool White	4500	69	360	362	h15
MASTER HPI Plus 400W/745 HOR E40 CRP	30000	77	Cool White	4500	69	361	367	p20
MASTER HPI Plus 400W/767 BU E40 CRP	32500	82	Daylight	6700	69	308	318	h15

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
MASTER HPI Plus 250W/745 BU E40 CRP	ME-250/45/2A-H-E40-V	8711500181145	0.192 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500181152	181145 15
MASTER HPI Plus 250W/745 BU E40 CRP	ME-250/45/2A-H-E40-V	8711500181145	0.192 kg	20	58.3 cm x 40.1 cm x 24.6 cm	8711500210852	181145 05
MASTER HPI Plus 250W/745 BU E40 CRP	ME-250/45/2A-H-E40-V	8711500181145	0.192 kg	24	58.3 cm x 40.1 cm x 24.6 cm	8711500200709	181145 30
MASTER HPI Plus 250W/745 BU-P E40 CRP	ME/S-250/45/2A-H-E40-V	8711500202062	0.19 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500202079	202062 15
MASTER HPI Plus 250W/745 BU-P E40 SLV	ME/S-250/45/2A-H-E40-V	8711500211477	0.22 kg	12	47.2 cm x 30.6 cm x 24.6 cm	8711500211484	211477 15
MASTER HPI Plus 250W/767 BU E40 CRP	ME-250/67/2A-H-E40-90/225/V	8711500207395	0.25 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500207401	207395 15
MASTER HPI Plus 400W/745 BU E40 CRP	ME-400/45/2A-H-E40-V	8711500182524	0.25 kg	12	58 cm x 40.2 cm x 29.9 cm	8711500210838	182524 15
MASTER HPI Plus 400W/745 BU E40 CRP	ME-400/45/2A-H-E40-V	8711500182524	0.25 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500182531	182524 10
MASTER HPI Plus 400W/745 BU-P E40 CRP	ME/S-400/45/2A-H-E40-V	8711500194824	0.26 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500194855	194824 10
MASTER HPI Plus 400W/745 BU-P E40 SLV	ME/S-400/45/2A-H-E40-V	8711500211439	0.392 kg	6	27.6 cm x 14.1 cm x 29.9 cm	8711500211446	211439 10
MASTER HPI Plus 400W/745 HOR E40 CRP	ME-400/45/2A-H-E40-H	8711500181084	0.243 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500181091	181084 10
MASTER HPI Plus 400W/767 BU E40 CRP	ME-400/67/2A-H-E40-90/225/V	8711500207371	0.25 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500207388	207371 10
MASTER HPI Plus 400W/745 BUS E40 CRP	ME-400/45/2A-H/I-E40-V	8711500181114	0.25 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500181121	181114 10
MASTER HPI Plus 400W/745 BUS-P E40 CRP	ME/S-400/45/2A-H/I-E40-V	8711500193179	0.26 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500193261	193179 10
MASTER HPI Plus 400W/745 BUS-P E40 SLV	ME/S-400/45/2A-H/I-E40-V	8711500211453	0.394 kg	6	44.1 cm x 27.6 cm x 29.9 cm	8711500211460	211453 10

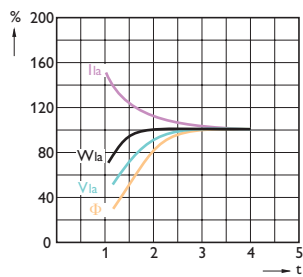
**Spectral power distribution**



HPI 400W

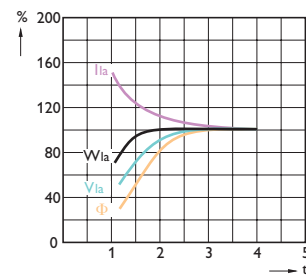
**Performance diagram**

Lamp performance during run up



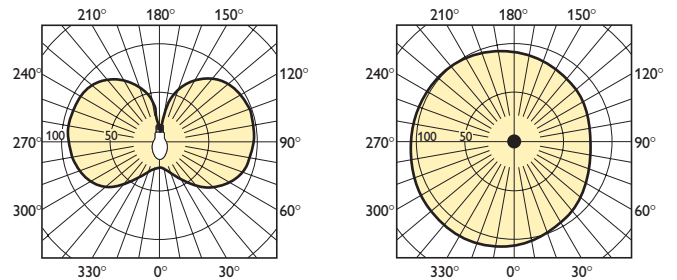
HPI

Lamp performance during run up



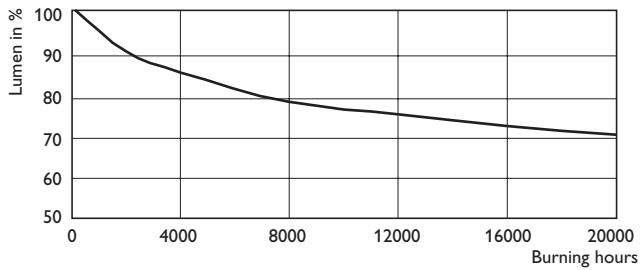
HPI

**Photometric diagram**



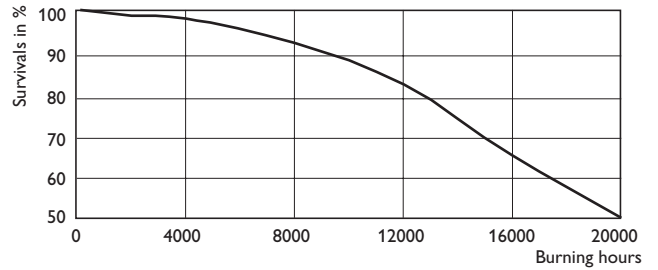
HPI

**Lumen maintenance diagram**



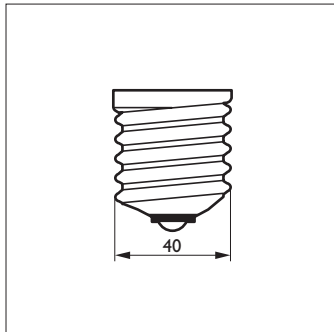
HPI 250W/400W I743/767

**Life expectancy diagram**



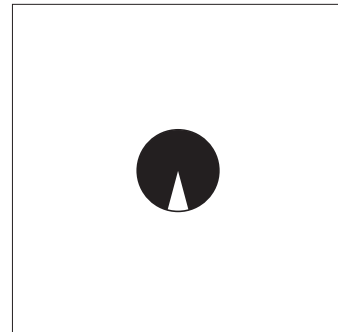
HPI 250W/400W I743/767

**Cap Base**

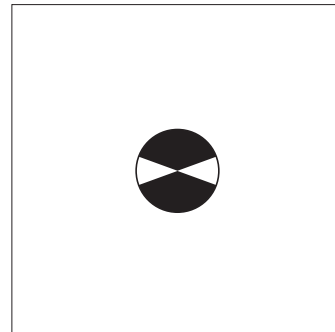


E40

**Operating position**



h15



p20





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CDO-TT 150W E40

### Product Description

- Ceramic metal halide Outdoor with clear tubular outer bulb

### Product Features

- Robust lamp with long lifetime
- Directly retrofit on HPS (SON) installations for upgrade from yellow to white light
- Good colour rendering and harmonized warm white colour temperature

### Product Benefits

- Reduced cost of ownership compared to predecessor MASTERColour CDM-TT
- Comfortable warm colour impression with stable colour over lifetime
- Flexible light levels and reduced energy consumption possible via dimming option
- Upgrade for existing HPL installations with gear exchange

### Application

- City centres, shopping centres and pedestrian areas, residential areas, road lighting and floodlighting

### Luminaires

- In the highly unlikely event of lamp breakage by incorrect use, vandalism or end of life effects, the luminaire housing should be able to contain heated glass, metal and / or ceramic particles

### System

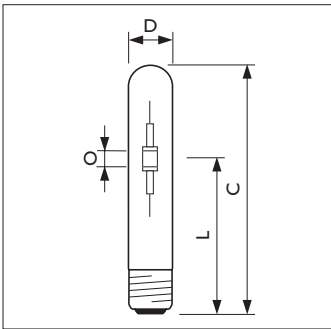
- Must be used with a SON gear and SON ignitor
- Warm restart time can be up to fifteen minutes. T15 ignitors are therefore advised
- Dimming only possible with electronic gear, DynaVision 1-10V
- Achieves optimal performance on Philips PrimaVision electronic gear

### Environment

- Good environmental choice because of high energy efficiency in white light
- Products are RoHS compliant
- Products are covered by WEEE

**Recommended gear page 3.170**

**[www.philips.com/OEM](http://www.philips.com/OEM)**



CDO-TT



CDO-TT 100W E40

Type	CMax	DMax	LNom	ONom
MASTER CityWhite CDO-TT 70W/828 E27 SLV	156	32.5	102	7
MASTER CityWhite CDO-TT 100W/828 E40 SLV	209	47	132	7
MASTER CityWhite CDO-TT 150W/828 E40 SLV	211	47	132	9
MASTER CityWhite CDO-TT 250W/828 E40 SLV	255	47	157	21.3

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER CityWhite CDO-TT 70W	1	72	90	70	Yes	2500	198	30	3	14000
MASTER CityWhite CDO-TT 100W	1.2	95	95	100	Yes	5000	198	30	2	14000
MASTER CityWhite CDO-TT 150W	1.8	147	100	150	Yes	5000	198	30	3	14000
MASTER CityWhite CDO-TT 250W	3	244	93	250	Yes	5000	198	30	3	9000

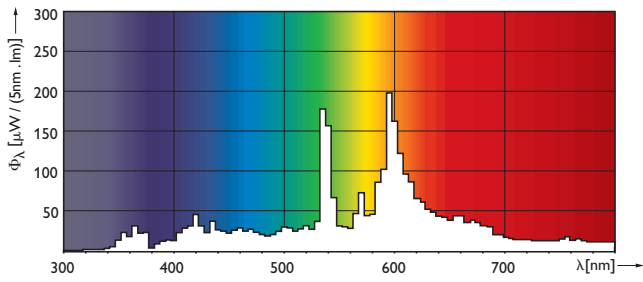
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER CityWhite CDO-TT 70W/828 E27 SLV	6300	88	Warm White	2800	83	452	402	any
MASTER CityWhite CDO-TT 100W/828 E40 SLV	8800	91	Warm White	2800	83	460	394	any
MASTER CityWhite CDO-TT 150W/828 E40 SLV	13500	92	Warm White	2800	85	460	403	any
MASTER CityWhite CDO-TT 250W/828 E40 SLV	22500	92	Warm White	2800	85	431	375	p5

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER CityWhite CDO-TT 70W/828 E27 SLV	MT-70/28/1B-H-E27	8711500205469	0.046 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500205476	205469 15
MASTER CityWhite CDO-TT 100W/828 E40 SLV	MT-100/20/1B-H-E40	8711500206817	0.137 kg	12	31.7 cm x 19.6 cm x 23.6 cm	8711500206824	206817 15
MASTER CityWhite CDO-TT 150W/828 E40 SLV	MT-150/28/1B-H-E40	8711500205360	0.135 kg	12	31.7 cm x 19.6 cm x 23.6 cm	8711500205377	205360 15
MASTER CityWhite CDO-TT 250W/828 E40 SLV	MT-250/28/1B-H-E40	8711500209054	0.161 kg	12	31.7 cm x 19.6 cm x 27.7 cm	8711500209061	209054 15

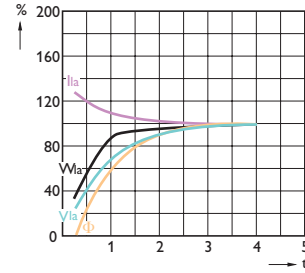
**Spectral power distribution**



CDO-TT /828

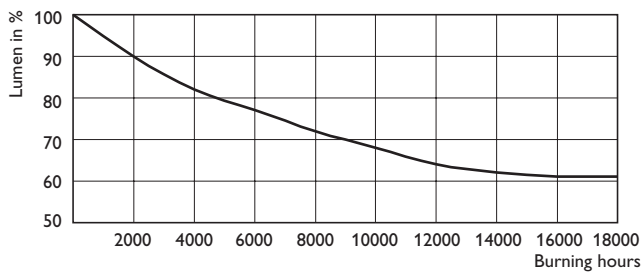
**Performance diagram**

Lamp performance during run up

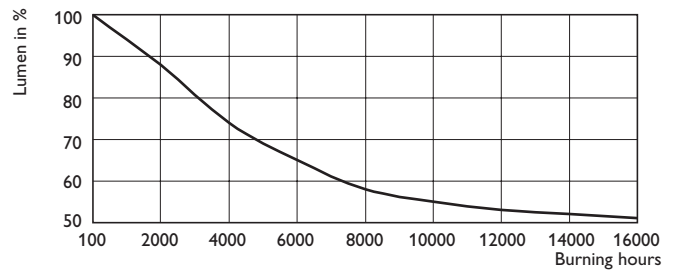


CDO-TT

**Lumen maintenance diagram**

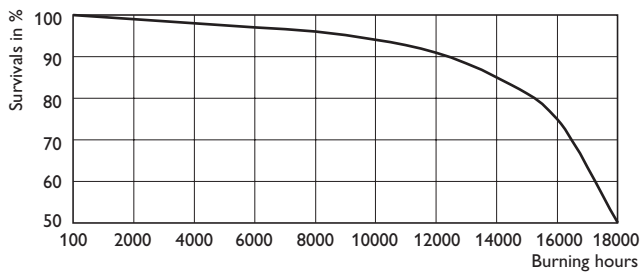


CDO-TT 70W/100W/150W

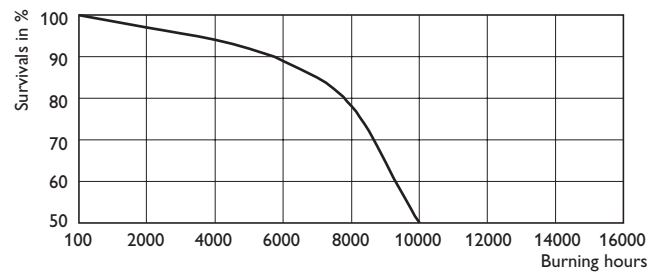


CDO-TT 250W

**Life expectancy diagram**

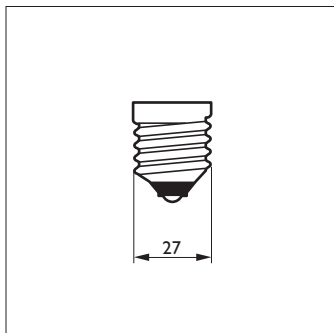


CDO-TT 70W/100W/150W

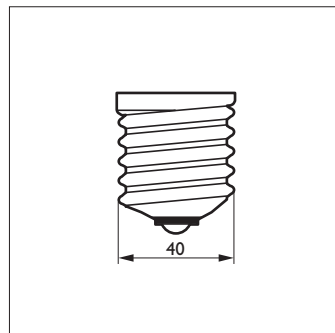


CDO-TT 250W

**Cap Base**

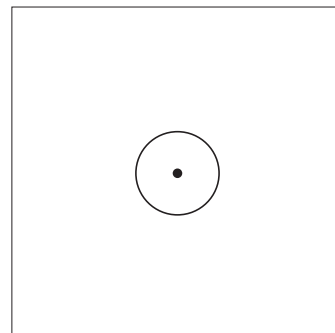


E27

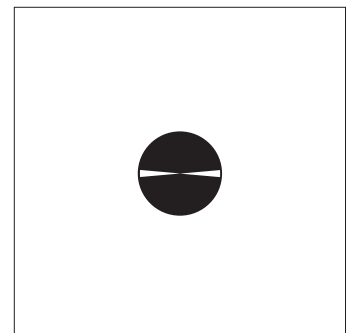


E40

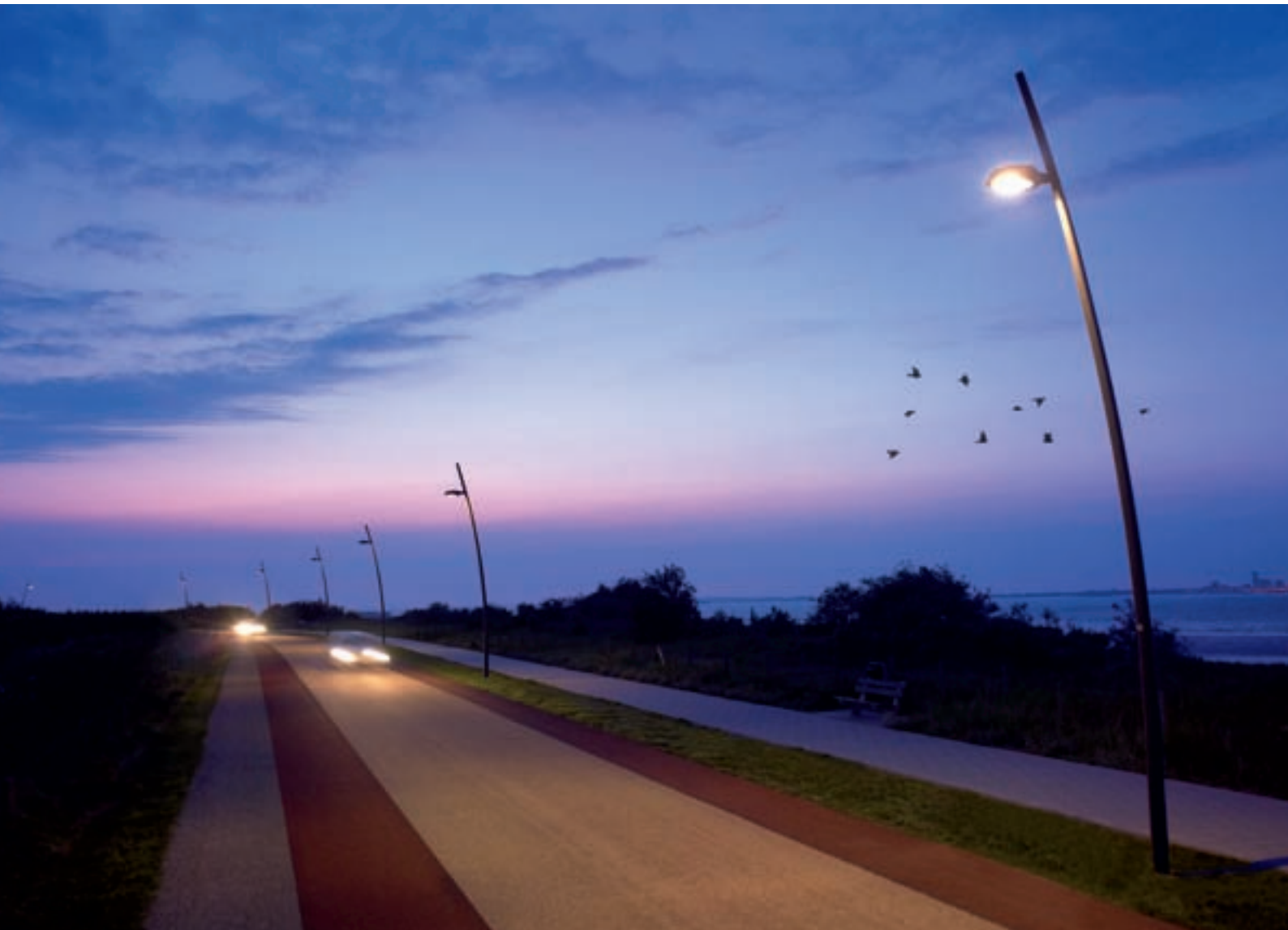
**Operating position**



any



p5





MH-T

**Product Description**

- Quartz metal halide lamps rendering coloured light

**Product Features**

- Single-ended lamp with clear tubular outer bulb
- Available in three colours: blue, green and violet
- Suitable for direct replacement from regular white HPI-T illumination to coloured flood lighting

**Product Benefits**

- Brings colourful light on any floodlit object and instant change of atmosphere
- High luminous output in comparison with white metal halide lamps using an additional colour filter
- Eliminates the need for expensive and fragile colour filters

**Application**

- Decorative lighting of buildings, landmarks, statues, monuments, parks, resorts and attractions
- Multi-functional lighting for promotional, seasonal and festive purposes, at special events etc.

**Luminaires**

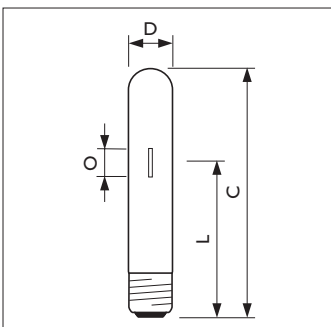
- Must be used in a closed luminaire

**System**

- ArtColour runs on HPI-gear only

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



MH-T

Type	CNom	DNom	LMin	LNom	LMax	OMin	ONom	OMax
Artcolour MH-T 400W Blue/Green/Violet E40 SLV	283	46	164	168	172	43.5	44.5	45.5



**Technical data**

Type	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
Artcolour MH-T 400W Blue/Green/Violet E40 SLV	380	120	400	198	5000

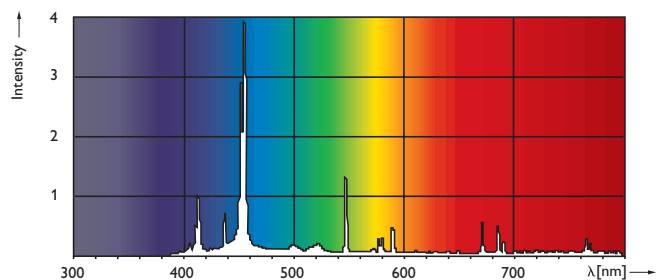
**Light data**

Type	Luminous Flux Lamp EM (lm)	Colour Designation	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
Artcolour MH-T 400W Blue E40 SLV	10000	Blue	2100	1800	p20
Artcolour MH-T 400W Green E40 SLV	29000	Green	2500	5900	p20
Artcolour MH-T 400W Violet E40 SLV	10000	Violet	3000	2000	p20

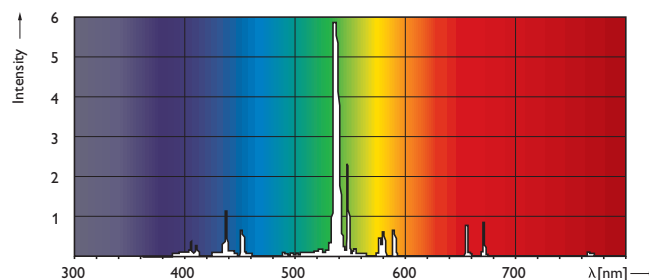
**Ordering and packing data**

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
Artcolour MH-T 400W Blue E40 SLV	8711500201591	0.201 kg	6	24.7 cm x 19 cm x 35.6 cm	8711500201607	201591 10
Artcolour MH-T 400W Green E40 SLV	8711500201638	0.201 kg	6	24.7 cm x 19 cm x 34 cm	8711500201645	201638 10
Artcolour MH-T 400W Violet E40 SLV	8711500201652	0.209 kg	6	24.7 cm x 19 cm x 34 cm	8711500201669	201652 10

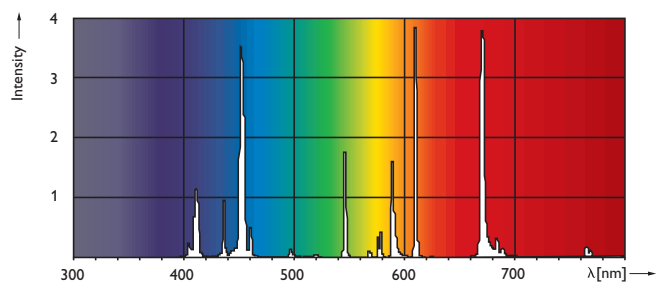
**Spectral power distribution**



MH-T Blue



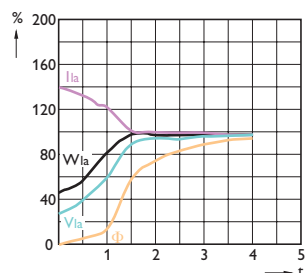
MH-T Green



MH-T Violet

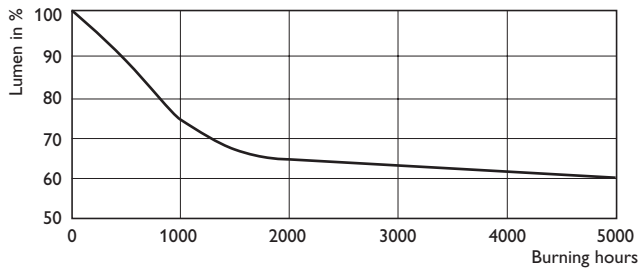
**Performance diagram**

Lamp performance during run up

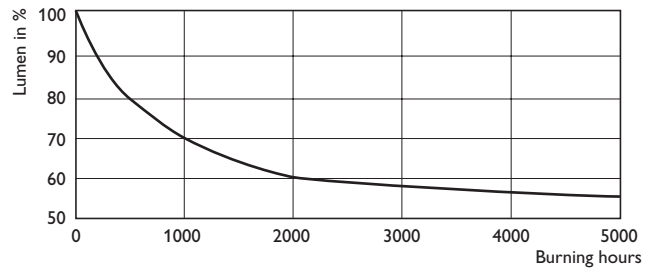


MH-T

**Lumen maintenance diagram**

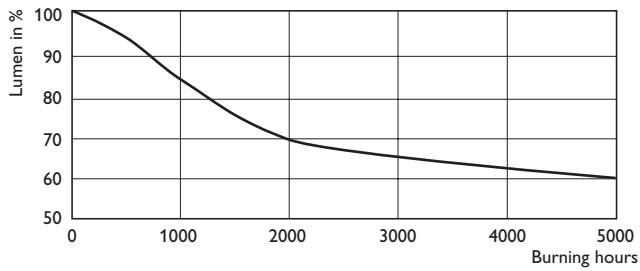


MH-T 400W BL

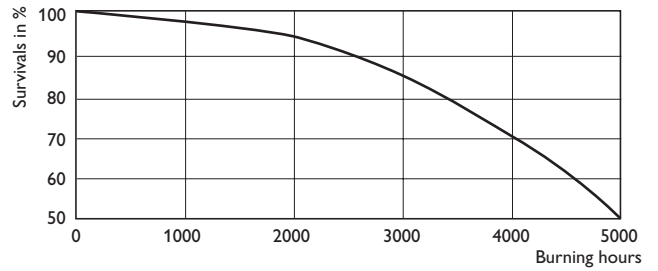


MH-T 400W GR

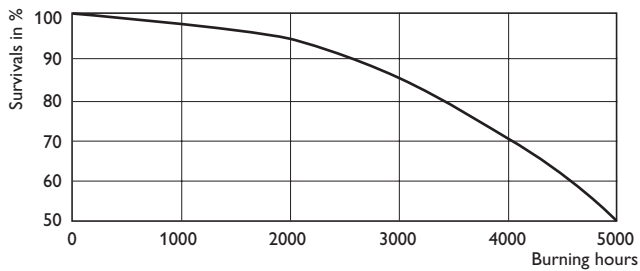
**Life expectancy diagram**



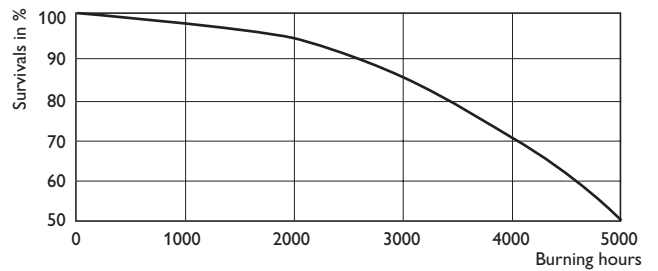
MH-T 400W VI



MH-T 400W BL

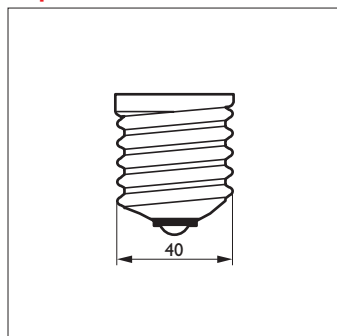


MH-T 400W GR



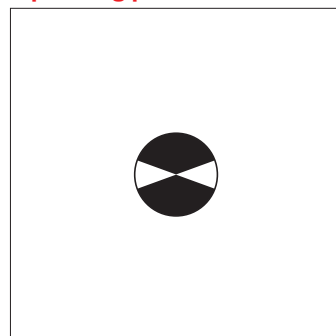
MH-T 400W VI

**Cap Base**



E40

**Operating position**



p20





MHN-FC 1000W

**Product Description**

- Compact quartz metal halide lamps with double pinch

**Product Features**

- Double-pinch concept results in long lifetime
- Choice of 1000 W and 2000 W types
- Natural white colour appearance
- Compact light source allows small luminaire design

**Product Benefits**

- Allows compact luminaire systems with precision optics for minimal light spill
- Good colour rendering creates a pleasant ambience with high visual comfort for players and spectators
- Continuous spectral distribution offers options for semi-professional stadiums and area lighting

**Application**

- Recreational sports and area floodlighting

**Luminaires**

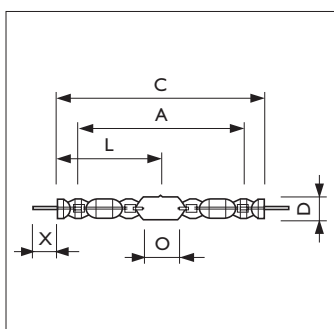
- MHN-FC lamps require a protective, UV-absorbing front glass and correct thermal behaviour for optimal lamp performance

**Environment**

- This product is RoHS compliant
- This product is covered by WEEE

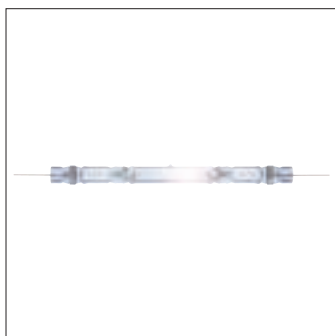
**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



MHN-FC

Type	ANom	DMax	ONom	XNom
MASTER MHN-FC 1000W/740 230V XW UNP	226	33	42.5	58
MASTER MHN-FC 2000W/740 400V XW UNP	290	33	108	58



MHN-FC 2000W

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
MASTER MHN-FC 1000W/740 230V XW UNP	10	1035	125	230	1000	No	198	10000
MASTER MHN-FC 2000W/740 400V XW UNP	10.11	2032	220	400	2000	No	342	14000

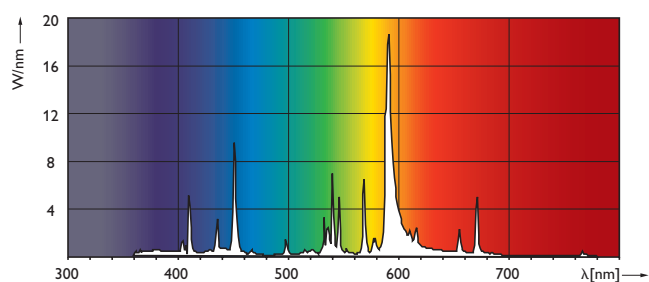
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER MHN-FC 1000W/740 230V XW UNP	93000	91	White	4100	65	379	383	p5
MASTER MHN-FC 2000W/740 400V XW UNP	210000	102	White	4200	60	380	419	p5

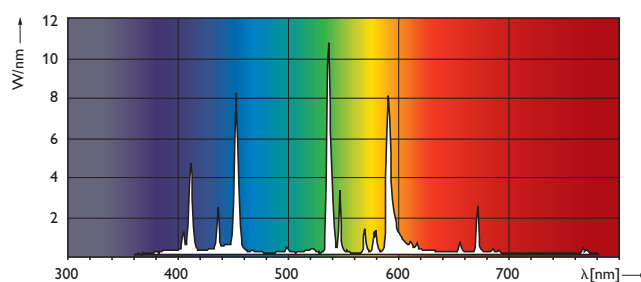
**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER MHN-FC 1000W/740 230V XW UNP	MD-1000/40/2B-H-XW	8711500214249	0.14 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500214249	214249 00
MASTER MHN-FC 2000W/740 400V XW UNP	MD-2000/40/2B-H-XW	8711500213495	0.19 kg	1	43 cm x 9.5 cm x 8.5 cm	8711500213495	213495 00

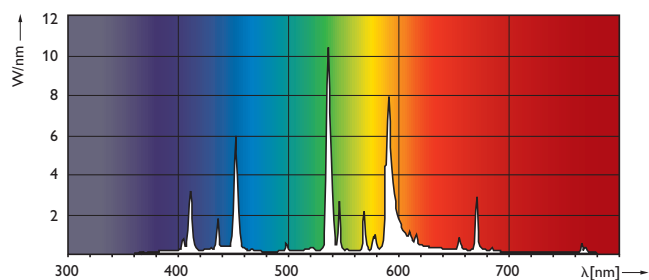
**Spectral power distribution**



MHN-FC 2000W /740

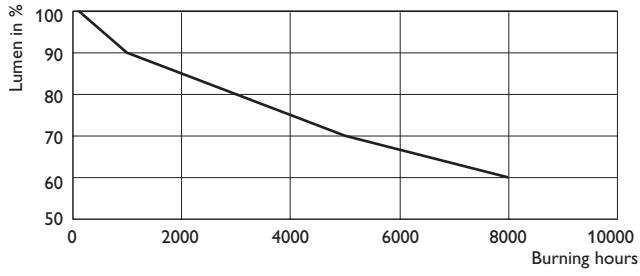


MHN-FC 1000W /750

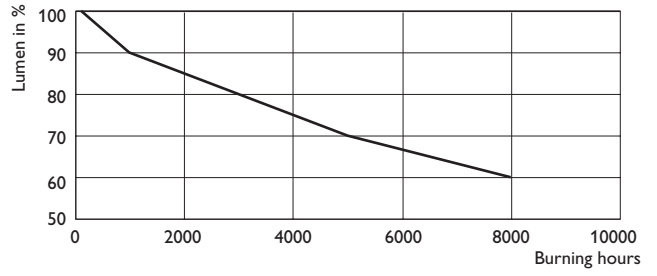


MHN-FC 1000W /740

**Lumen maintenance diagram**

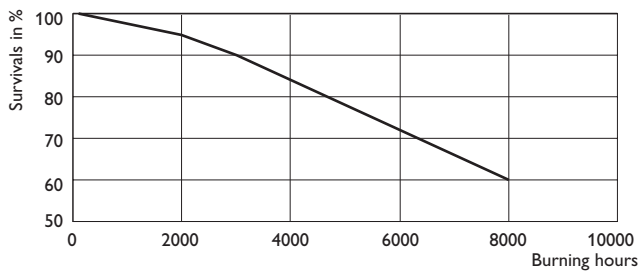


MHN-FC 1000W /740/750

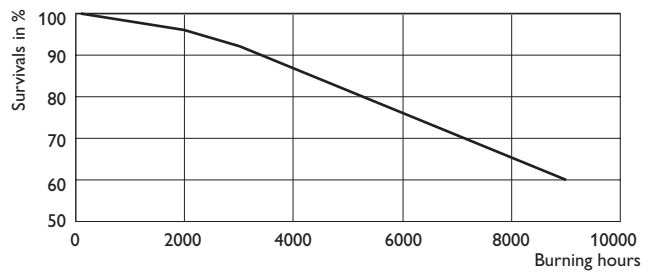


MHN-FC 2000W /740

**Life expectancy diagram**

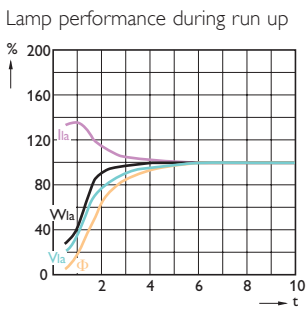


MHN-FC 1000W /740/750



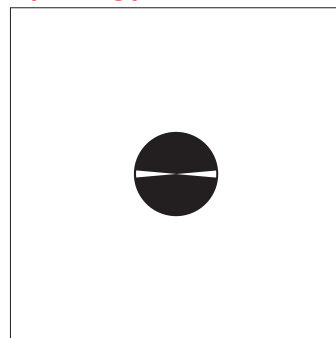
MHN-FC 2000W /740

**Performance diagram**



MHN-FC

**Operating position**



p5





CPO-TW 140W PGZ12

### Product Description

- New-generation ceramic metal halide lamps for outdoor lighting with white light, using a new lamp base and clear quartz outer bulb

### Product Features

- Extreme high energy efficiency
- Unique new burner design and positioning in combination with best lamp fixation (PGZ12)
- Compact size: 50% smaller than SON/HPL systems
- New electronic gear platform meets the most demanding public lighting requirements

### Product Benefits

- Attractive white light
- Best optical efficacy allows greater spacing between luminaires, thereby reducing investment
- Highest energy saving and lowest cost of ownership
- Lower our energy cost with 10-150% compared with today's light sources for outdoor applications
- Compact size & unique burnershape allows optimised optic and luminaire design
- Optimal lamp service lifetime and energy savings initially and over lifetime
- Robust, dedicated outdoor electronic Xtreme gear for long and reliable operation, ensuring future-proof outdoor installation

### Application

- Urban Public Lighting for city centres, residential areas and roads

### System

- Designed for use with electronic gear only
- Lamps and gear developed together to ensure optimal system operation for:
  - Lowest system energy initially and over lifetime
  - Robust, long-life outdoor-proof installation (lightning strike and peak voltage protection)

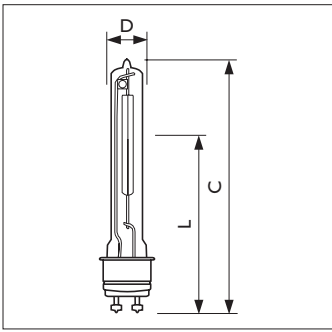
### Environment

- Philips Green product with high efficacy minimises environmental impact and CO<sub>2</sub> emission:
  - Good environmental choice due to highest energy efficiency in combination with compact white light
  - Compact size for low material and packaging use
  - RoHS compliant (lead-free), very low mercury content (max. 2.5 mg), covered by WEEE

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)





CPO-TW PGZ12

Type	CMax	DNom	DMax	LNom	ONom
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 ICT	132	19	20	59	15
MASTER CosmoWhite CPO-TW 60W 728 PGZ12 ICT	132	19	20	59	15
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 ICT	143	19	20	66	18
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 ICT	147	19	20	66	20

**Technical data**

Type	Lamp Current EL (A)	Lamp Wattage EL (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 ICT	0.5	45	90	45	No	5000	-	30	4
MASTER CosmoWhite CPO-TW 60W/728 PGZ12 ICT	0.65	60	92	60	No	5000	160	30	3
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 ICT	0.97	90	92	90	No	5000	-	30	4
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 ICT	1.49	140	94	140	No	5000	160	30	4

**Light data**

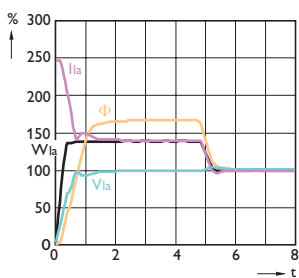
Type	Luminous Flux Lamp EL (lm)	Luminous Efficacy Lamp EL (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 ICT	4300	96	White	2720	60	458	409	any
MASTER CosmoWhite CPO-TW 60W/728 PGZ12 ICT	6800	114	White	2730	66	453	402	any
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 ICT	10450	116	White	2880	66	444	403	any
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 ICT	16500	118	White	2860	66	444	401	any

**Ordering and packing data**

Type	ILCOS	EAN code I piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER CosmoWhite CPO-TW 45W/628 PGZ12 ICT	MT-45/28/2B-H-PGZ12	8711500211194	0.034 kg	12	20.6 cm x 17.2 cm x 19 cm	8711500211200	211194 15
MASTER CosmoWhite CPO-TW 60W/728 PGZ12 ICT	MT-60/28/2B-H-PGZ12	8711500208514	0.034 kg	12	20.6 cm x 17.2 cm x 19 cm	8711500208521	208514 15
MASTER CosmoWhite CPO-TW 90W/728 PGZ12 ICT	MT-90/28/2B-H-PGZ12	8711500211217	0.038 kg	12	20.6 cm x 17.2 cm x 20.7 cm	8711500211224	211217 15
MASTER CosmoWhite CPO-TW 140W/728 PGZ12 ICT	MT-140/28/2B-H-PGZ12	8711500208538	0.04 kg	12	20.6 cm x 17.2 cm x 20.7 cm	8711500208545	208538 15

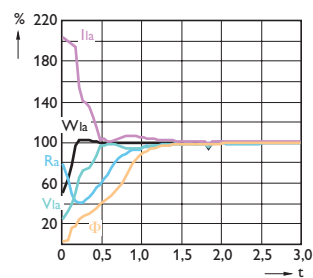
**Performance diagram**

Lamp performance during run up



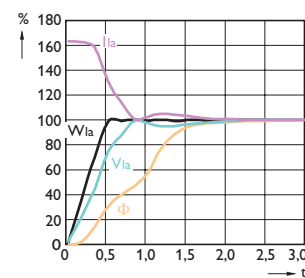
CPO-TW 45W

Lamp performance during run up



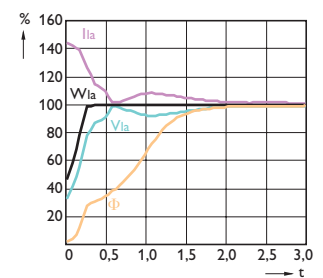
CPO-TW 60W

Lamp performance during run up



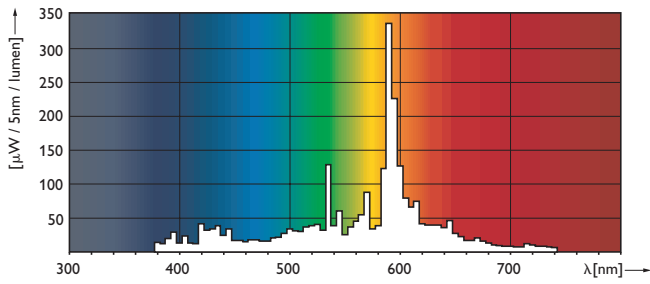
CPO-TW 90W

Lamp performance during run up

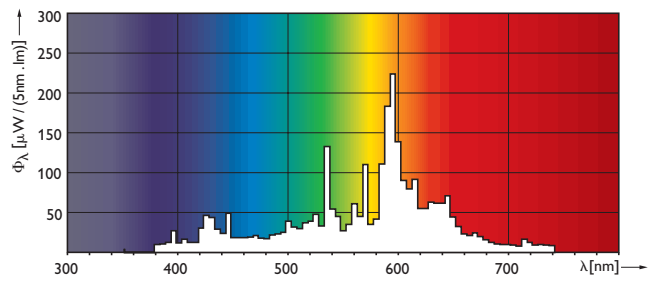


CPO-TW 140W

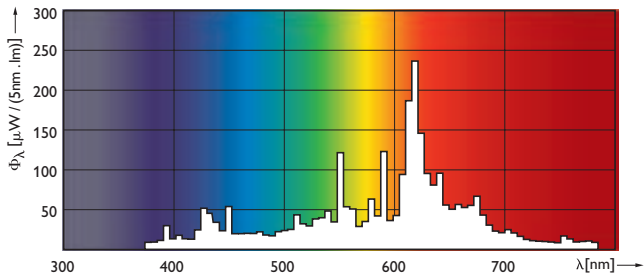
**Spectral power distribution**



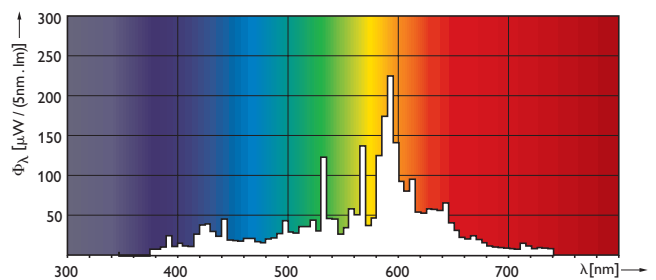
CPO-TW 45W /628



CPO-TW 60W

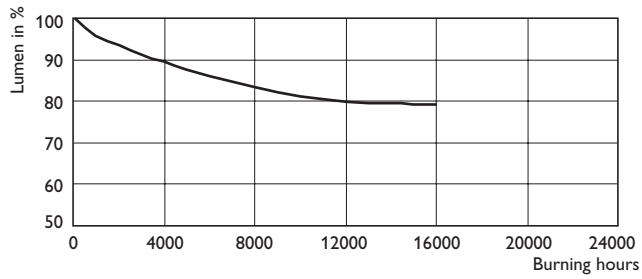


CPO-TW 90W



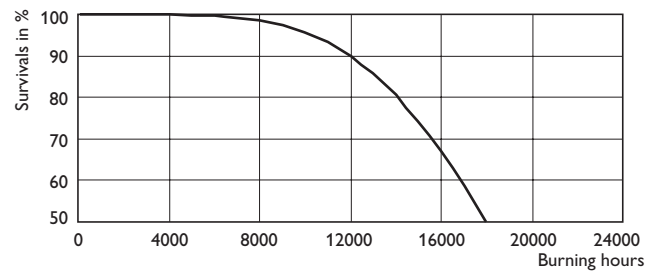
CPO-TW 140W

**Lumen maintenance diagram**



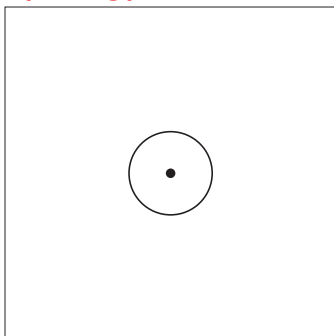
CPO-TW

**Life expectancy diagram**



CPO-TW

**Operating position**



any

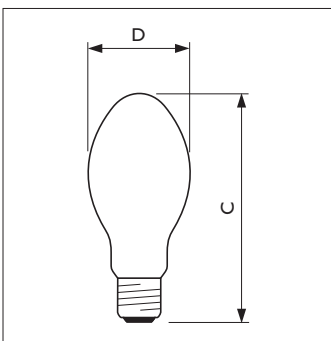




CDO-ET

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



CDO-ET

**Product Description**

- Ceramic metal halide Outdoor with opalized ovoid outer bulb

**Product Features**

- Robust lamp with long lifetime
- Directly retrofit on HPS (SON) installations for upgrade from yellow to white light
- Good colour rendering and harmonized warm white colour temperature

**Product Benefits**

- Reduced cost of ownership compared to predecessor MASTERColour CDM-ET
- Comfortable warm colour impression with stable colour over lifetime
- Flexible light levels and reduced energy consumption possible via dimming option
- Upgrade for existing HPL installations with gear exchange

**Application**

- City centres, shopping centres and pedestrian areas, residential areas, road lighting and floodlighting

**Luminaires**

- In the highly unlikely event of lamp breakage by incorrect use, vandalism or end of life effects, the luminaire housing should be able to contain heated glass, metal and / or ceramic particles

**System**

- Must be used with a SON gear and SON ignitor
- Warm restart time can be up to fifteen minutes. T15 ignitors are therefore advised
- Dimming only possible with electronic gear, DynaVision 1-10V
- Achieves optimal performance on Philips PrimaVision electronic gear

**Environment**

- Good environmental choice because of high energy efficiency in white light
- Products are RoHS compliant
- Products are covered by WEEE

Type	CMax	DMax
MASTER CityWhite CDO-ET 70W/828 E27 SLV	156	71
MASTER CityWhite CDO-ET 100W/828 E40 SLV	186	75
MASTER CityWhite CDO-ET 150W/828 E40 SLV	230	91

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER CityWhite CDO-ET 70W	0.980	71	87	70	Yes	2500	198	30	3	14000
MASTER CityWhite CDO-ET 100W	1.2	95	90	100	Yes	5000	198	30	2	14000
MASTER CityWhite CDO-ET 150W	1.800	145	93	150	Yes	5000	198	30	3	14000

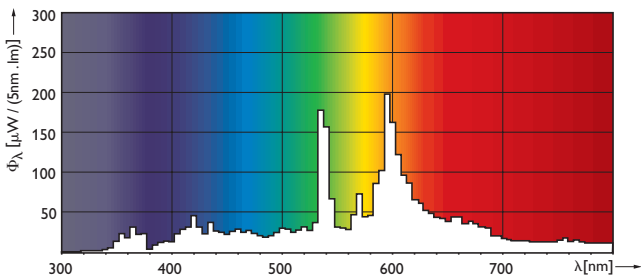
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER CityWhite CDO-ET 70W/828 E27 SLV	5600	79	Warm White	2820	78	449	405	any
MASTER CityWhite CDO-ET 100W/828 E40 SLV	8300	87	Warm White	2800	80	451	402	any
MASTER CityWhite CDO-ET 150W/828 E40 SLV	12500	86	Warm White	2800	82	460	403	any

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
MASTER CityWhite CDO-ET 70W/828 E27 SLV	ME-70/28/1B-H-E27	8711500205445	0.052 kg	24	45.5 cm x 30.7 cm x 17.2 cm	8711500205452	205445 30
MASTER CityWhite CDO-ET 100W/828 E40 SLV	ME-100/28/1B-H-E40	8711500206794	0.128 kg	24	59.4 cm x 35.6 cm x 20.5 cm	8711500206800	206794 30
MASTER CityWhite CDO-ET 150W/828 E40 SLV	ME-150/28/1B-H-E40	8711500205483	0.16 kg	12	47.5 cm x 30.6 cm x 24.6 cm	8711500205490	205483 15

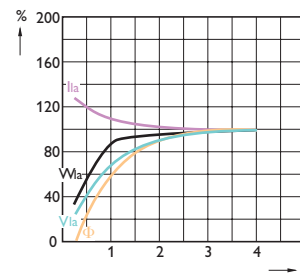
**Spectral power distribution**



CDO-ET /828

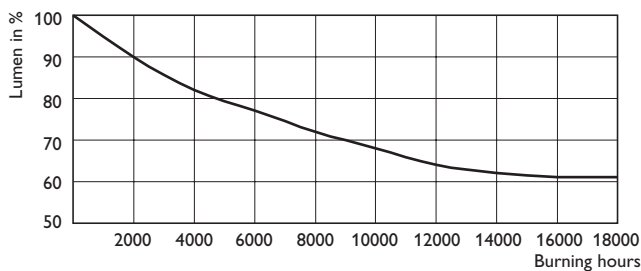
**Performance diagram**

Lamp performance during run up



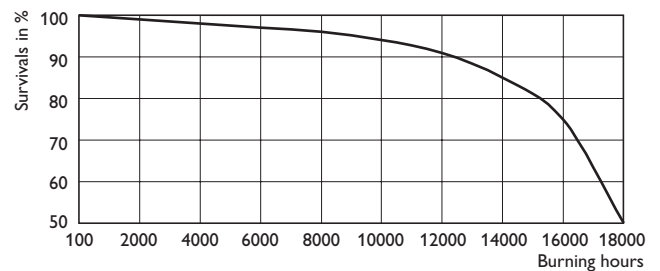
CDO-ET

**Lumen maintenance diagram**



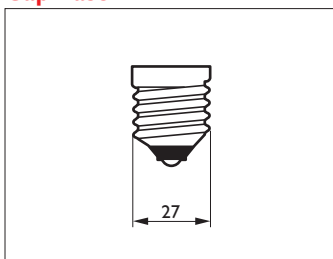
CDO-ET

**Life expectancy diagram**

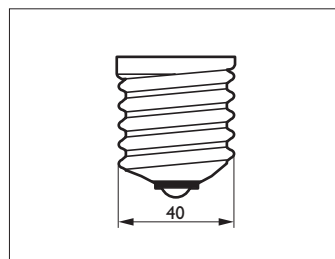


CDO-ET

**Cap Base**

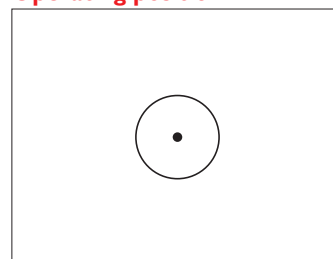


E27



E40

**Operating position**



any



CDM-TT 70W E27

**Product Description**

- High-intensity discharge lamps with a CDM discharge tube inside a SON lamp clear tubular outer bulb

**Product Features**

- Robust lamp giving a pleasant white light and a stable colour over lifetime
- Good colour rendering
- Dimming not recommended because of negative effects on lamp performance (lumen maintenance, colour and life)

**Product Benefits**

- Runs on SON gear so directly replaces equivalent wattage SON lamp for simple upgrade from yellow to white light

**Application**

- City centres, shopping centres and pedestrian areas, residential areas, road lighting
- City beautification: decorative lighting and floodlighting

**Luminaires**

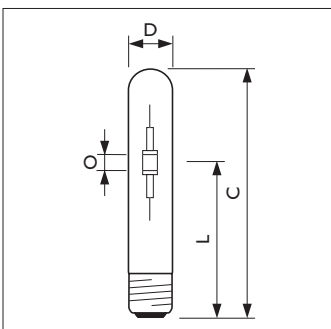
- In the highly unlikely event of lamp breakage by incorrect use, vandalism or end of life effects, the luminaire housing should be able to contain heated glass, metal and / or ceramic particles

**System**

- Must be used in combination with a gear and an ignitor
- Must be used with a SON gear and SON ignitor in accordance with SON IEC standards (ignition pulse between 1.8 kV and 2.5 kV for 70 W)
- For optimum lamp performance, the mains voltage may deviate by maximum +6/-8% from the voltage indicated on the type plate
- Warm restart time can be up to fifteen minutes. if the lamp does not start (e.g. with T5 ignitors), the installation must be switched off for fifteen minutes

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



CDM-TT

Type	CMax	DMax	LNom	ONom
MASTERColour CDM-TT 70W/942 E27 SLV	156	32.5	102	6
MASTERColour CDM-TT 150W/942 E40 SLV	211	46	133	8

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTERColour CDM-TT 70W/942 E27 SLV	0.970	73	91	70	No	1800	198	30	4	9000
MASTERColour CDM-TT 150W/942 E40 SLV	1850	145	93	150	No	2800	198	30	4	9000

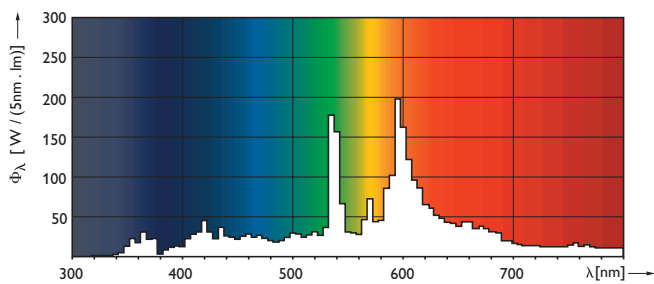
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTERColour CDM-TT 70W/942 E27 SLV	6400	85	Cool White	4200	90	369	370	any
MASTERColour CDM-TT 150W/942 E40 SLV	12000	83	Cool White	4200	90	386	369	any

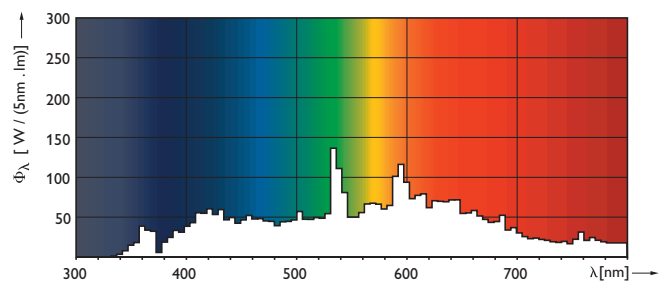
**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
MASTERColour CDM-TT 70W/942 E27 SLV	MT-70/42/1A-H-E27	871 1500209658	0.047 kg	12	16.6 cm x 13.4 cm x 18.9 cm	871 1500209665	209658 15
MASTERColour CDM-TT 150W/942 E40 SLV	MT-150/42/1A-H-E40	871 1500209672	0.135 kg	12	31.7 cm x 19.6 cm x 23.6 cm	871 1500209689	209672 15

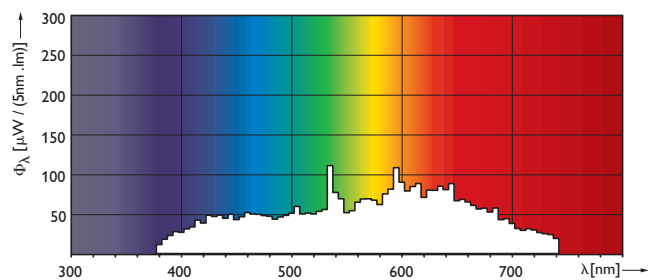
**Spectral power distribution**



CDM-TT /830



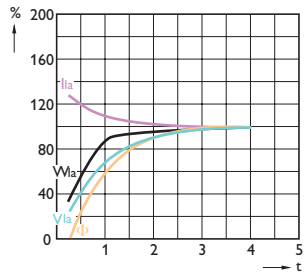
CDM-TT 70W /942



CDM-TT 150W /942

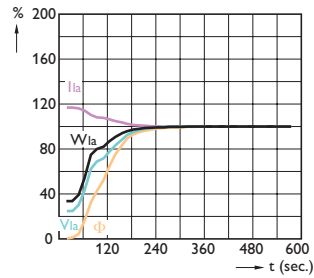
**Performance diagram**

Lamp performance during run up



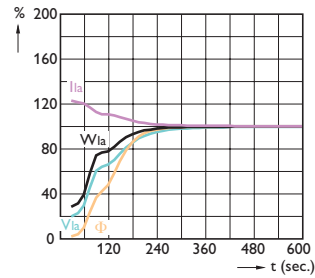
CDM-TT /830

Lamp performance during run up



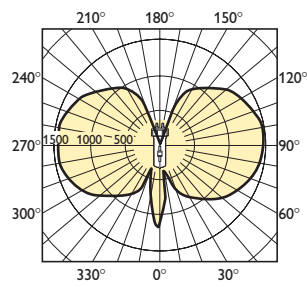
CDM-TT 70W /942

Lamp performance during run up

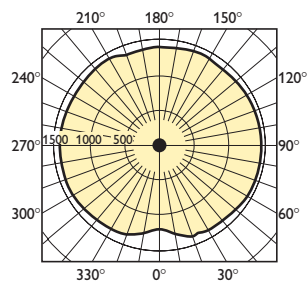


CDM-TT 150W /942

**Photometric diagram**

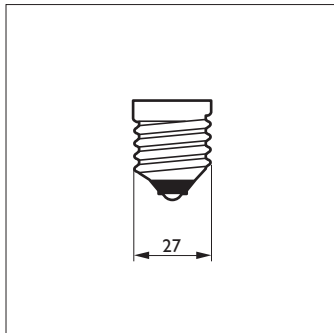


CDM-TT 150W

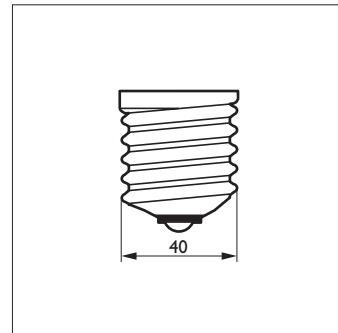


CDM-TT 70W

**Cap Base**

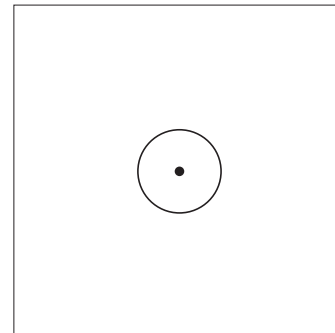


E27



E40

**Operating position**



any







SON-T Agro E40

**Product Description**

- High Pressure Sodium lamp with clear outer bulb, high lumen maintenance and increased blue radiation

**Product Features**

- Clear tubular outer bulb
- “Agro” concept with increased blue radiation results in more compact and sturdy plant development
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- ZrAl getter ensures high lumen maintenance and few early failures

**Product Benefits**

- Optimised performance for horticultural applications, especially at lower lighting levels
- Optimizing plant development and quality with good leaf and bloom colour and extra branching

**Application**

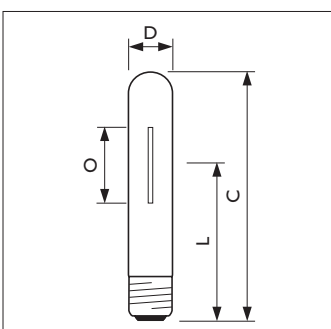
- Horticultural applications, plant irradiation

**Environment**

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



SON-T

Type	CMax	DMax	LNom	ONom
MASTER Agro 400W E40 SLV	283	47	175	83

**Technical data**



Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER Agro	4.13	423.0	116	230	400	No	2800	198	10	5	30000

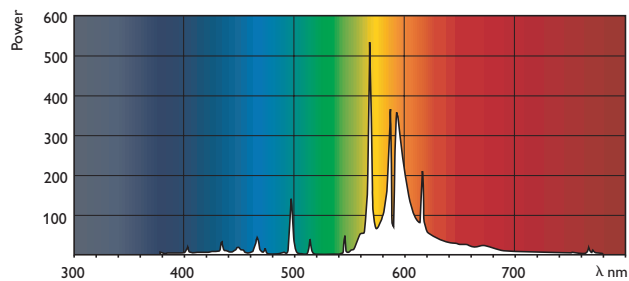
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER Agro 400W E40 SLV	55000	130	2000	25	520	415	any

**Ordering and packing data**

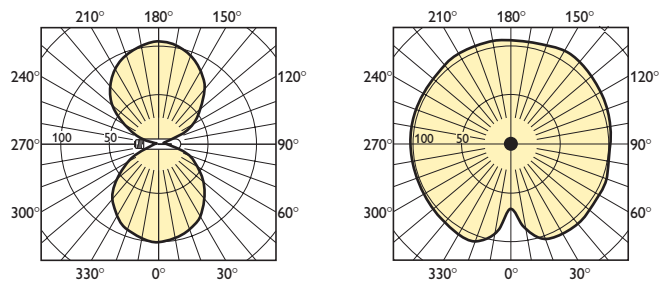
Type	ILCOS	EAN code l piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER Agro 400W E40 SLV	ST-400-H/E-E40	871150070505	0.192 kg	12	16.9 cm x 22.5 cm x 31.1 cm	8711500183019	707505 15

**Spectral power distribution**



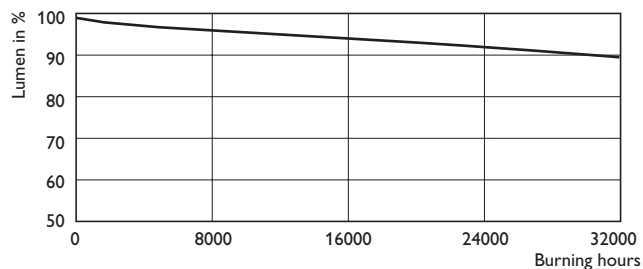
SON-T Agro 400W

**Photometric diagram**



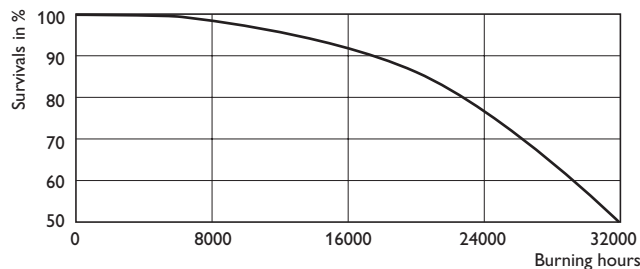
SON-T

**Lumen maintenance diagram**



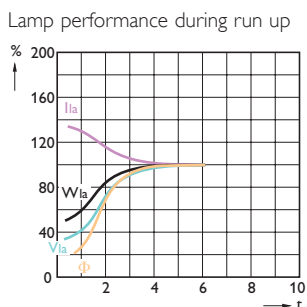
SON-T 100W/150W/250W/400W

**Life expectancy diagram**



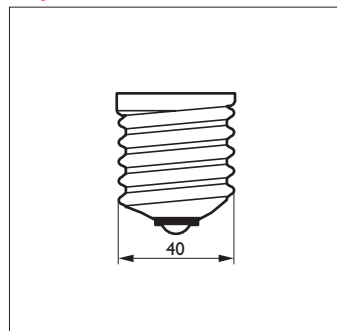
SON-T 100W/150W/250W/400W

**Performance diagram**



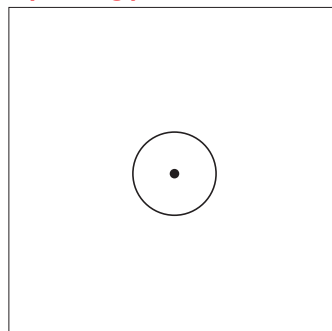
SON-T Agro 400W

**Cap Base**



E40

**Operating position**



any



SON-T Green Power/GreenPower CG T E39/E40 T40/T46

**Product Description**

- High Pressure Sodium lamp with clear outer bulb, high lumen maintenance and optimised micromol output

**Product Features**

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- ZrAl getter ensures high lumen maintenance and few early failures
- “Green Power” concept with optimised micromol output (growth light)
- “Plus” concept with high efficacy translated into high light output

**Product Benefits**

- Optimised performance for horticultural applications
- High lumen maintenance safeguards a constant crop quality and quantity over life

**Application**

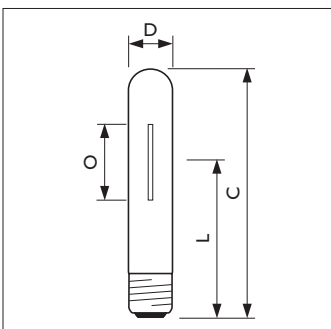
- Horticultural applications, plant irradiation

**Environment**

- Good environmental choice because of high energy efficiency and long reliable life
- This product is RoHS compliant
- This product is covered by WEEE

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



SON-T

Type	CMax	DMax	LNom	ONom
MASTER GreenPower CG T 400W E40 SLV/UNP	275	46	175	83
MASTER GreenPower CG T 600W E40 SLV/UNP	275	46	166	102
MASTER GreenPower 600W 400V E40 SLV/UNP	283	47	169	102
MASTER GreenPower 600W 480V E40 SLV	283	47	168	120

**Technical data**



Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)
MASTER GreenPower CGT 400W E40	4.230	420	113	230	400	Yes	2800	198	10	5
MASTER GreenPower CGT 600W E40	6.3	605	115	230	600	Yes	3500	220	10	5
MASTER GreenPower 600W 400V E40	3.620	608	191	400	600	Yes	3500	398	10	5
MASTER GreenPower 600W 480V E40	3.620	595	208	480	600	Yes	3500	480	10	5

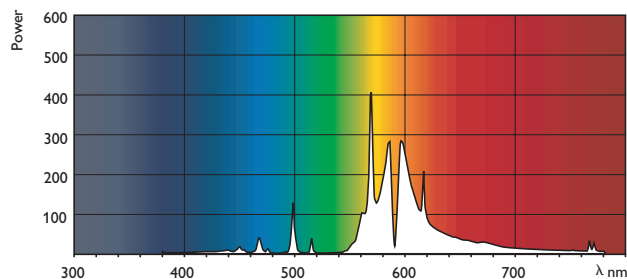
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER GreenPower CGT 400W E40 SLV/UNP	58500	140	-	20	-	-	any
MASTER GreenPower CGT 600W E40 SLV/UNP	88000	147	-	26	533	432	any
MASTER GreenPower 600W 400V E40 SLV/UNP	87500	144	2040	33	526	420	any
MASTER GreenPower 600W 480V E40 SLV	84500	142	2040	33	526	420	any

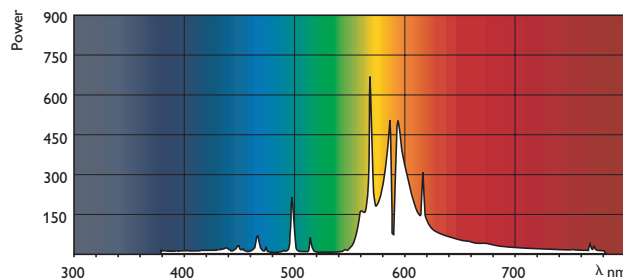
**Ordering and packing data**

Type	ILCOS	EAN code I piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER GreenPower CGT 400W E40 SLV	ST-400-H/S-E40	8711500201966	0.18 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500201973	201966 15
MASTER GreenPower CGT 400W E40 UNP	ST-400-H/S-E40	8711500202451	0.18 kg	60	60 cm x 40 cm x 32.5 cm	8711500202468	202451 75
MASTER GreenPower CGT 600W E40 SLV	ST-600-H/S-E40	8711500202024	0.182 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500202031	202024 15
MASTER GreenPower CGT 600W E40 UNP	ST-600-H/S-E40	8711500202291	0.182 kg	60	60 cm x 40 cm x 32.5 cm	8711500202307	202291 75
MASTER GreenPower 600W 400V E40 SLV	ST-600-H/S-E40	8711500203076	0.179 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500203083	203076 15
MASTER GreenPower 600W 400V E40 UNP	ST-600-H/S-E40	8711500203090	0.179 kg	60	60 cm x 40 cm x 32.5 cm	8711500203106	203090 75
MASTER GreenPower 600W 480V E40 SLV	ST-600-H/S-E40	8711500206480	0.18 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500206497	206480 15

**Spectral power distribution**



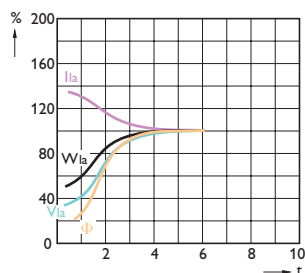
SON-T Green Power/GreenPower CGT 400W



SON-T Green Power 600W

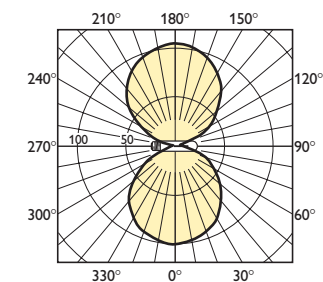
**Performance diagram**

Lamp performance during run up

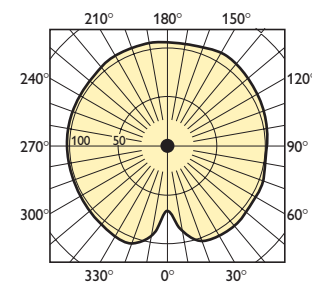


SON-T Green Power 600W

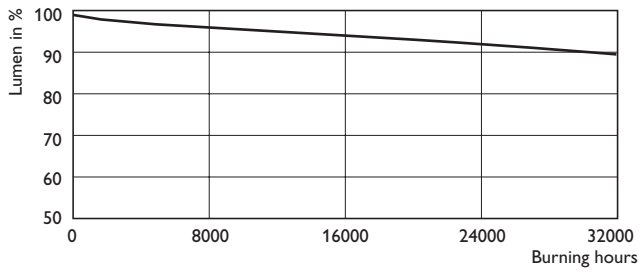
**Photometric diagram**



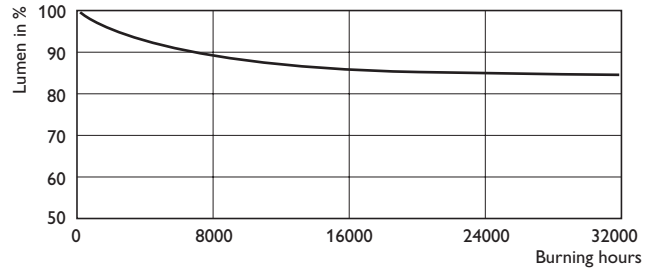
SON-T



**Lumen maintenance diagram**

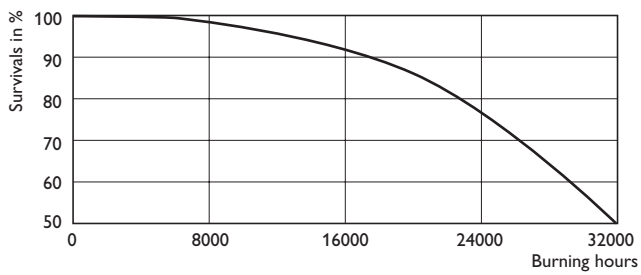


SON-T 100W/150W/250W/400W

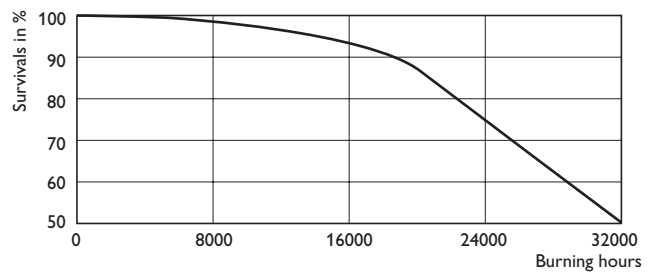


SON-T 600W

**Life expectancy diagram**

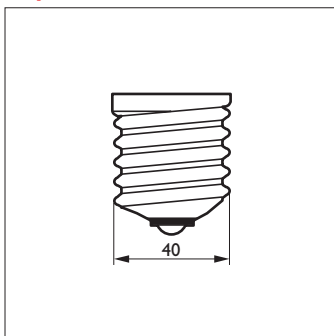


SON-T 100W/150W/250W/400W



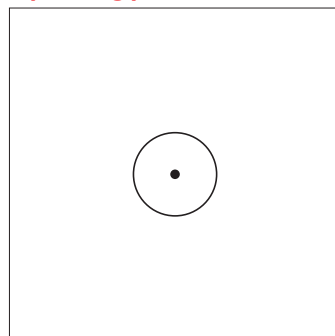
SON-T 600W

**Cap Base**



E40

**Operating position**



any





SON-T Plus E40

**Product Description**

- High Pressure Sodium lamp with clear tubular outer bulb, high output and long reliable lifetime

**Product Features**

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- “Plus” concept with high efficacy translated into high light output
- Completely lead-free lamps

**Product Benefits**

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- High energy efficacy and absence of lead (Pb) makes this a sound environmental offer
- High luminous efficacy makes this the most energy efficient HPS lamp

**Application**

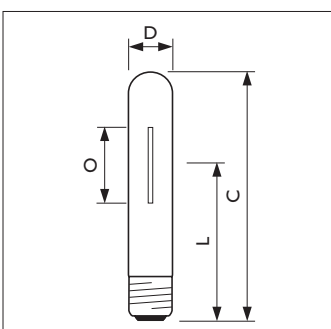
- Road and residential lighting
- Decorative floodlighting, illumination
- Industrial area lighting
- Recreational sports facilities indoor and outdoor
- Horticultural lighting

**Environment**

- Good environmental choice because of high energy efficiency and long reliable life
- Products are RoHS compliant
- Products are covered by WEEE

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



SON-T

Type	CMax	DMax	LNom	ONom
MASTER SON-T PIA Plus 50W/220 E27 SLV	156	38	102	35
MASTER SON-T PIA Plus 70W/220 E27 SLV	156	38	102	42
MASTER SON-T PIA Plus 100W/220 E40 SLV	210	48	132	47
MASTER SON-T PIA Plus 150W/220 E40 SLV	210	48	132	61
MASTER SON-T PIA Plus 250W/220 E40 SLV	257	48	158	64
MASTER SON-T PIA Plus 400W/220 E40 SLV	283	48	175	83
MASTER SON-T PIA Plus 600W/220 E40 SLV	283	47	174.2	126



**Technical data**



Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)
MASTER SON-T PIA Plus 50W/220 E27 SLV	0.75	50.0	91	230	50	Yes	1800	198
MASTER SON-T PIA Plus 70W/220 E27 SLV	1	70.0	90	230	70	Yes	1800	198
MASTER SON-T PIA Plus 100W/220 E40 SLV	1.2	100.0	100	230	100	Yes	2800	198
MASTER SON-T PIA Plus 150W/220 E40 SLV	1.8	150.0	100	230	150	Yes	2800	198
MASTER SON-T PIA Plus 250W/220 E40 SLV	3	250.0	100	230	250	Yes	2800	198
MASTER SON-T PIA Plus 400W/220 E40 SLV	4.5	400.0	100	230	400	Yes	2800	198
MASTER SON-T PIA Plus 600W/220 E40 SLV	5.8	600	115	230	600	No	3500	198

**Technical data**

Type	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON-T PIA Plus 50W/220 E27 SLV	5	4	28000
MASTER SON-T PIA Plus 70W/220 E27 SLV	5	4	28000
MASTER SON-T PIA Plus 100W/220 E40 SLV	5	4	32000
MASTER SON-T PIA Plus 150W/220 E40 SLV	10	4	32000
MASTER SON-T PIA Plus 250W/220 E40 SLV	10	5	32000
MASTER SON-T PIA Plus 400W/220 E40 SLV	10	5	32000
MASTER SON-T PIA Plus 600W/220 E40 SLV	10	5	28000

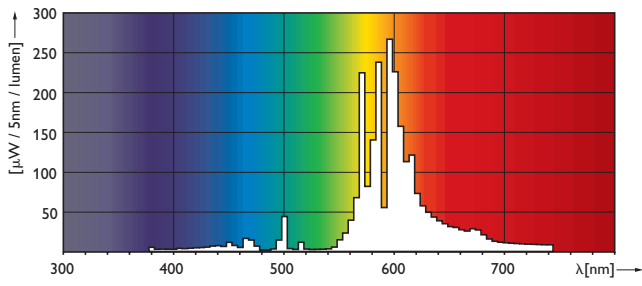
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON-T PIA Plus 50W/220 E27 SLV	4400	88	2000	25	540	420	any
MASTER SON-T PIA Plus 70W/220 E27 SLV	6600	91	2000	25	540	420	any
MASTER SON-T PIA Plus 100W/220 E40 SLV	10700	107	2000	25	535	420	any
MASTER SON-T PIA Plus 150W/220 E40 SLV	17500	110	2000	25	535	420	any
MASTER SON-T PIA Plus 250W/220 E40 SLV	33200	128	2000	25	530	420	any
MASTER SON-T PIA Plus 400W/220 E40 SLV	56500	138	2000	25	525	425	any
MASTER SON-T PIA Plus 600W/220 E40 SLV	90000	150	2000	25	524	426	any

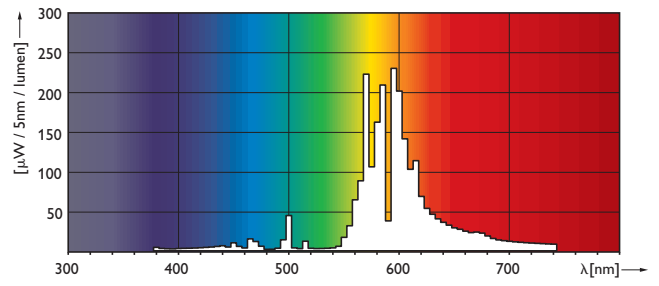
**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SON-T PIA Plus 50W/220 E27 SLV	ST-50-H/S-E27	8711500192653	0.047 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500193094	192653 15
MASTER SON-T PIA Plus 70W/220 E27 SLV	ST-70-H/S-E27	8711500192660	0.046 kg	12	16.6 cm x 13.4 cm x 18.9 cm	8711500193131	192660 15
MASTER SON-T PIA Plus 100W/220 E40 SLV	ST-100-H/S-E40	8711500192301	0.128 kg	12	22.5 cm x 16.9 cm x 24.2 cm	8711500192745	192301 15
MASTER SON-T PIA Plus 150W/220 E40 SLV	ST-150-H/S-E40	8711500192295	0.142 kg	12	24.2 cm x 16.9 cm x 22.5 cm	8711500192721	192295 15
MASTER SON-T PIA Plus 250W/220 E40 SLV	ST-250-H/E-E40	8711500179876	0.17 kg	12	22.5 cm x 16.9 cm x 29.3 cm	8711500182937	179876 15
MASTER SON-T PIA Plus 400W/220 E40 SLV	ST-400-H/E-E40	8711500179883	0.18 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500182951	179883 15
MASTER SON-T PIA Plus 600W/220 E40 SLV	ST-600-H/S-E40	8711500197429	0.177 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500197436	197429 15

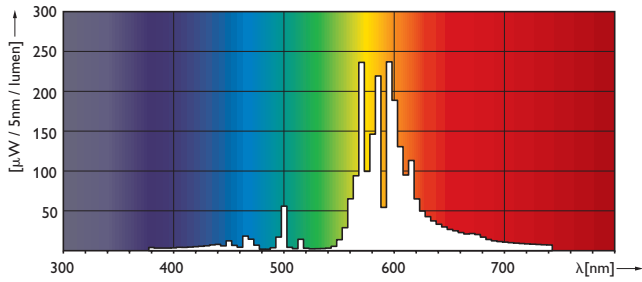
**Spectral power distribution**



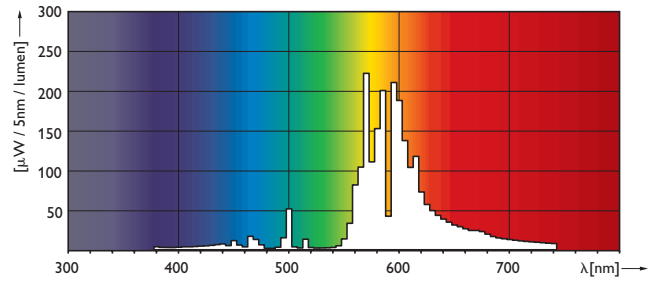
SON-T Plus 50W/70W E27



SON-T Plus 100W/150W/250W E40



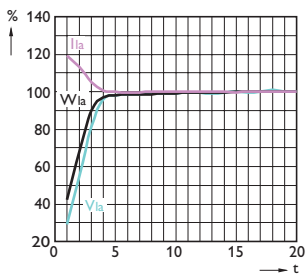
SON-T Plus 400W E40



SON-T Plus 600W E39/E40

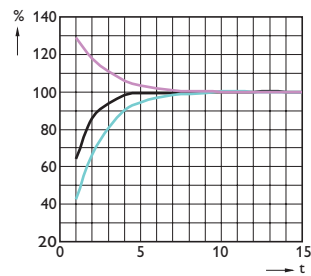
**Performance diagram**

Lamp performance during run up



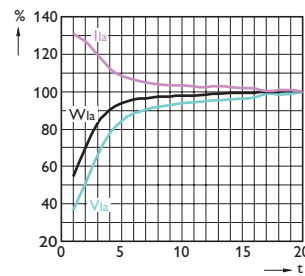
SON-T Plus 50W/70W E27

Lamp performance during run up



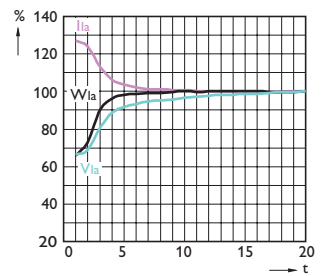
SON-T Plus 100W/150W/250W E40

Lamp performance during run up



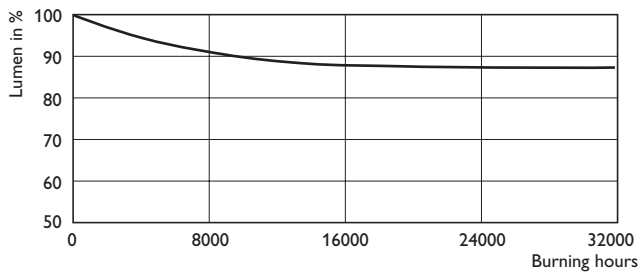
SON-T Plus 400W E40

Lamp performance during run up

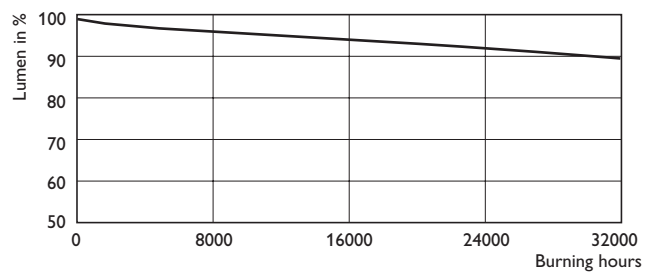


SON-T Plus 600W E39/E40

**Lumen maintenance diagram**

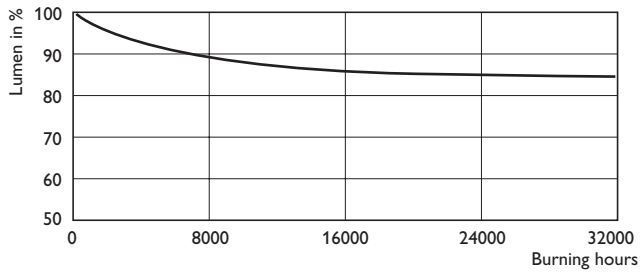


SON-T 50W/70W

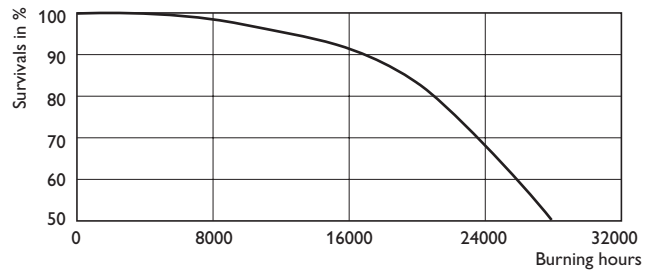


SON-T 100W/150W/250W/400W

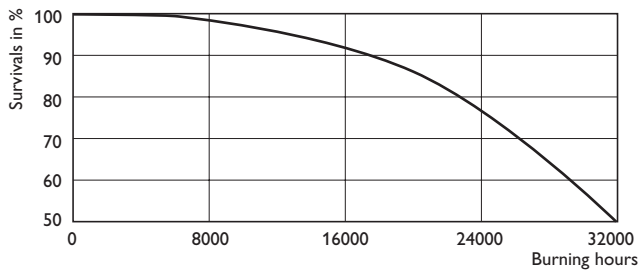
**Life expectancy diagram**



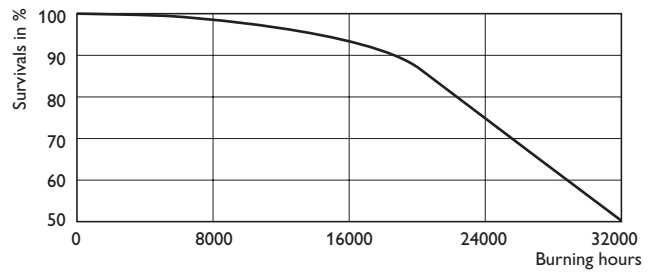
SON-T 600W



SON-T 50W/70W

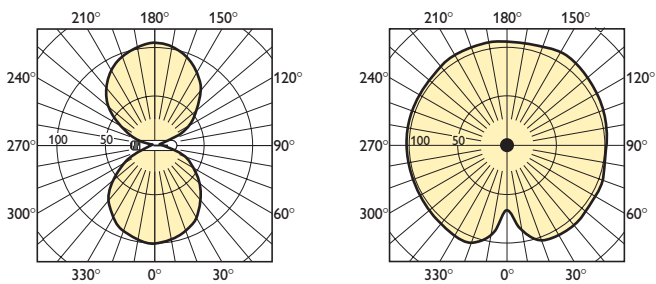


SON-T 100W/150W/250W/400W



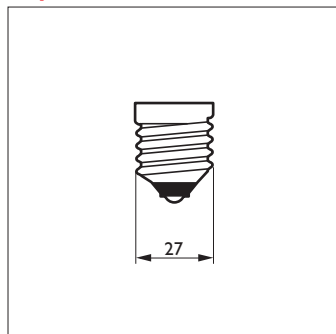
SON-T 600W

**Photometric diagram**

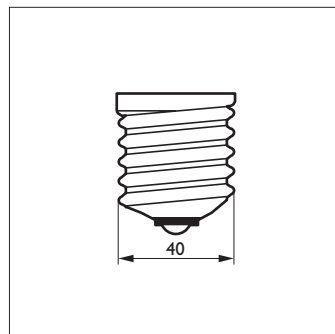


SON-T

**Cap Base**

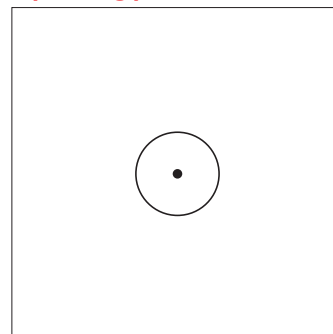


E27



E40

**Operating position**



any



SON PIA Plus E40

**Product Description**

- High Pressure Sodium lamp with opalized ovoid outer bulb, high output and long reliable lifetime

**Product Features**

- Ovoid, internally white coated outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- “Plus” concept with high efficacy translated into high light output
- Completely lead-free lamps

**Product Benefits**

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- High energy efficacy and absence of lead (Pb) makes this a sound environmental offer
- High luminous efficacy makes this the most energy efficient HPS lamp

**Application**

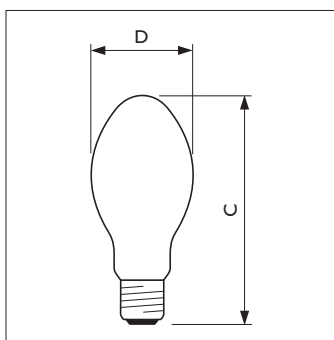
- Road and residential lighting
- Industrial lighting both indoor and outdoor
- Recreational sports facilities indoor and outdoor

**Environment**

- Good environmental choice because of high energy efficiency and long reliable life
- Products are RoHS compliant
- Products are covered by WEEE

**Recommended gear page 3.170**

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SON PIA

Type	CMax	DMax
MASTER SON PIA Plus 70W/220 I E27 SLV	152	70
MASTER SON PIA Plus 100W/220 E40 SLV	186	76
MASTER SON PIA Plus 150W/250W/220 E40 SLV	227	91
MASTER SON PIA Plus 400W/220 E40 SLV	290	121.5

**Technical data**



Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON PIA Plus 70W/220 I E27	0.980	71.50	92	70	Yes		198			28000
MASTER SON PIA Plus 100W/220 E40	1.2	100.0	100	100	Yes	2800	198	5	4	32000
MASTER SON PIA Plus 150W/220 E40	1.8	154	100	150	Yes	2800	198	10	4	32000
MASTER SON PIA Plus 250W/220 E40	2.85	260.0	105	250	Yes	2800	198	10	5	32000
MASTER SON PIA Plus 400W/220 E40	4.5	400.0	105	400	Yes	2800	198	10	5	32000

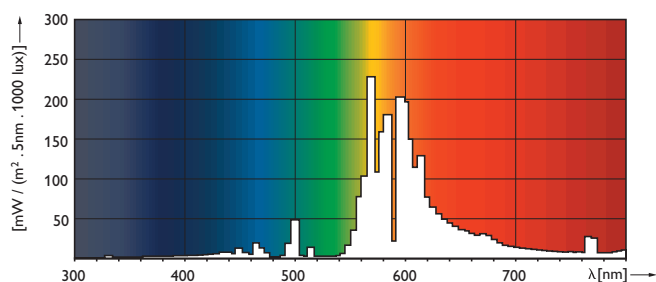
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON PIA Plus 70W/220 I E27 SLV	5900	82	1900	20	-	-	any
MASTER SON PIA Plus 100W/220 E40 SLV	10200	107	2000	25	535	420	any
MASTER SON PIA Plus 150W/220 E40 SLV	17000	114	2000	25	535	420	any
MASTER SON PIA Plus 250W/220 E40 SLV	31100	120	2000	25	530	420	any
MASTER SON PIA Plus 400W/220 E40 SLV	55500	135	2000	25	525	425	any

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SON PIA Plus 70W/220 I E27 SLV	SE-70-H/I-E27	8711500204264	0.055 kg	24	45.5 cm x 30.7 cm x 16.8 cm	8711500204271	204264 30
MASTER SON PIA Plus 100W/220 E40 SLV	SE-100-H/S-E40	8711500182258	0.125 kg	12	34.3 cm x 26 cm x 23.1 cm	8711500182265	182258 15
MASTER SON PIA Plus 150W/220 E40 SLV	SE-150-H/S-E40	8711500182289	0.156 kg	12	40 cm x 30.5 cm x 26.9 cm	8711500182296	182289 15
MASTER SON PIA Plus 250W/220 E40 SLV	SE-250-H/S-E40	8711500193445	0.17 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500193469	193445 15
MASTER SON PIA Plus 400W/220 E40 SLV	SE-400-H/S-E40	8711500193452	0.228 kg	12	51.9 cm x 39.2 cm x 33.1 cm	8711500195937	193452 15

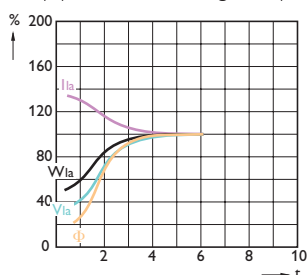
**Spectral power distribution**



SON PIA

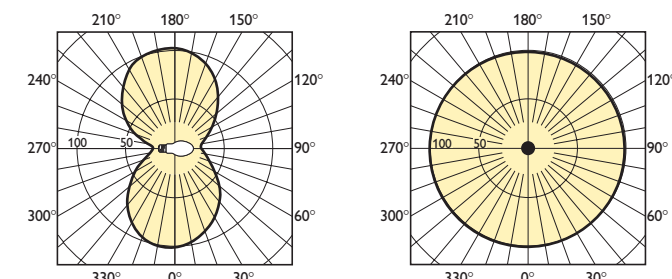
**Performance diagram**

Lamp performance during run up



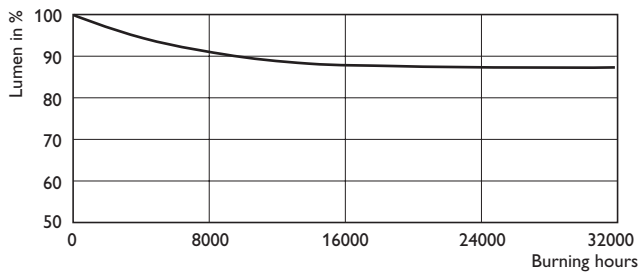
SON PIA Plus

**Photometric diagram**

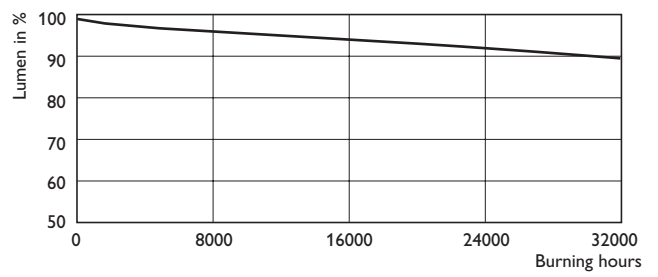


SON PIA

**Lumen maintenance diagram**

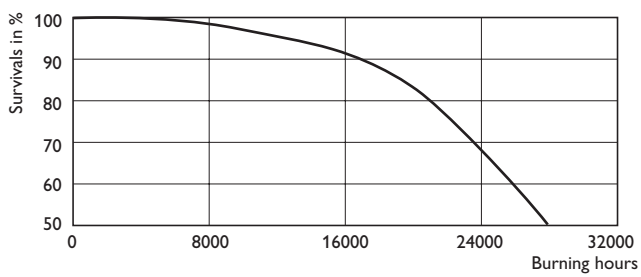


SON PIA 50W/70W

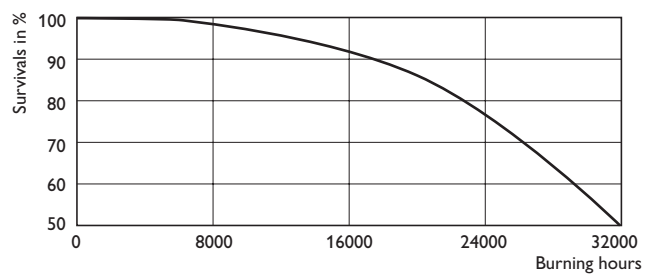


SON PIA 100W/150W/250W/400W

**Life expectancy diagram**

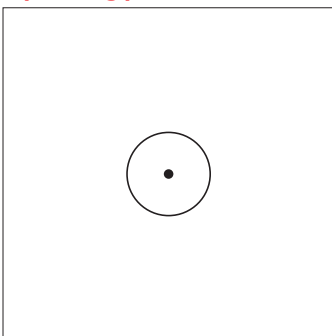


SON PIA 50W/70W



SON PIA 100W/150W/250W/400W

**Operating position**



any





SON-T Hg Free E40

**Product Description**

- High Pressure Sodium lamp with clear tubular outer bulb, long reliable lifetime and no Mercury

**Product Features**

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- Completely mercury (Hg) and lead-free lamps

**Product Benefits**

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- Absence of mercury and lead makes this an environmentally sound offer

**Application**

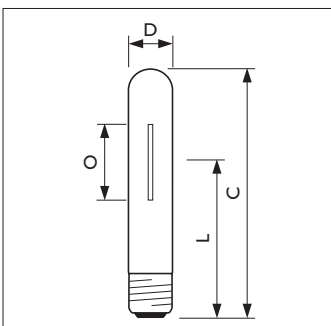
- Road and residential lighting
- Decorative floodlighting, illumination
- Industrial area lighting
- Recreational sports facilities indoor and outdoor

**Environment**

- Good environmental choice because of high energy efficiency, long reliable life and mercury free
- This product is a Philips Green product
- This product is RoHS compliant
- This product is covered by WEEE

**Recommended gear page 3.170**

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SON-T

Type	CMax	DMax	LNom	ONom
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	210	46	132	70
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	211	48	132	73
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	257	47	158	82
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	279	46	175	111



**Technical data**



Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	1.24	100.0	98	230	100	No	2800	198
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	1.8	150.0	98	230	150	No	2800	198
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	3	250	100	230	250	No	2800	198
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	4.6	400.0	98	230	400	No	2800	198

**Technical data**

Type	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	5	4	32000
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	10	4	32000
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	10	5	32000
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	10	5	32000

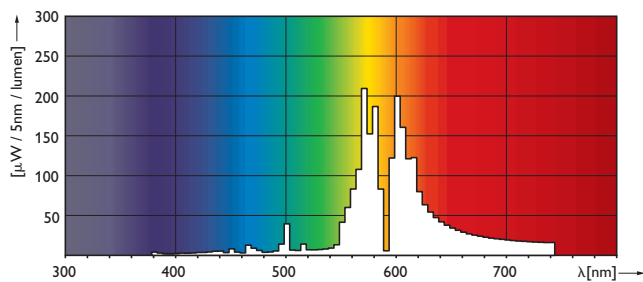
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	9000	88	2150	25	525	436	any
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	15000	100	2150	25	525	436	any
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	28000	110	2150	25	516	436	any
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	48000	120	2150	25	519	436	any

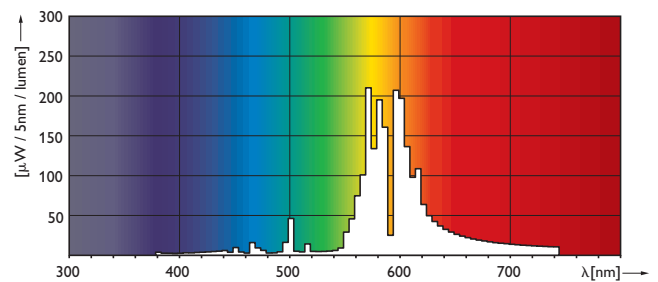
**Ordering and packing data**

Type	ILCOS	EAN code l piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
MASTER SON-T PIA Hg-Free 100W/221 E40 SLV	ST-100-H/E-E40	871 1500201379	0.095 kg	12	22.5 cm x 16.9 cm x 24.2 cm	871 1500201386	201379 15
MASTER SON-T PIA Hg-Free 150W/221 E40 SLV	ST-150-H/E-E40	871 1500200617	0.132 kg	12	22.5 cm x 16.9 cm x 24.2 cm	871 1500200624	200617 15
MASTER SON-T PIA Hg-Free 250W/221 E40 SLV	ST-250-H/E-E40	871 1500200594	0.16 kg	12	22.5 cm x 16.9 cm x 29.3 cm	871 1500200600	200594 15
MASTER SON-T PIA Hg-Free 400W/221 E40 SLV	ST-400-H/E-E40	871 1500200631	0.176 kg	12	22.5 cm x 16.9 cm x 31.1 cm	871 1500200648	200631 15

**Spectral power distribution**



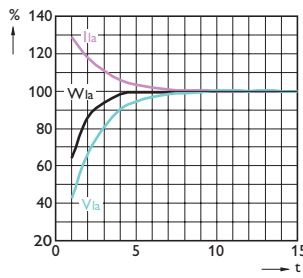
SON-T Hg Free 100W/150W/250W E40



SON-T Hg Free 400W E40

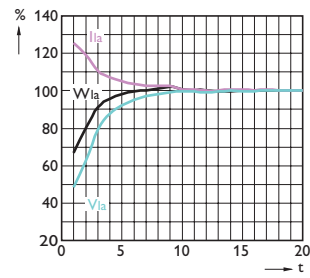
**Performance diagram**

Lamp performance during run up



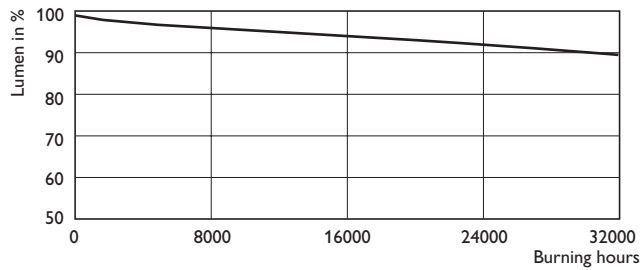
SON-T Hg Free 100W/150W/250W

Lamp performance during run up



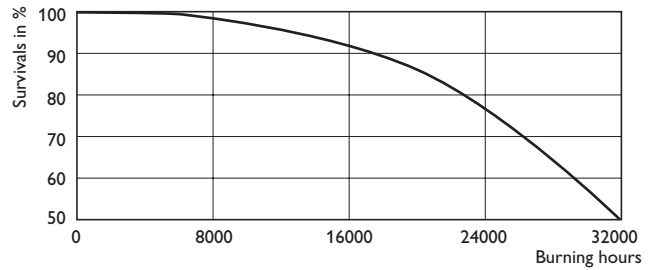
SON-T Hg Free 400W E40

**Lumen maintenance diagram**



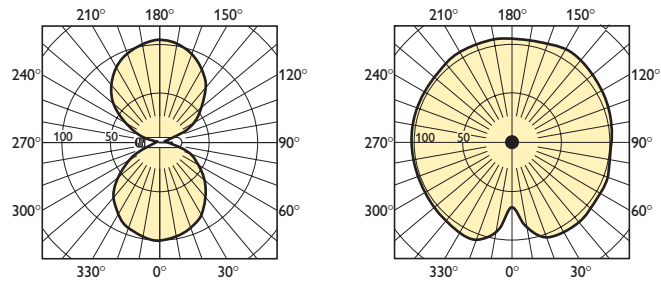
SON-T 100W/150W/250W/400W

**Life expectancy diagram**



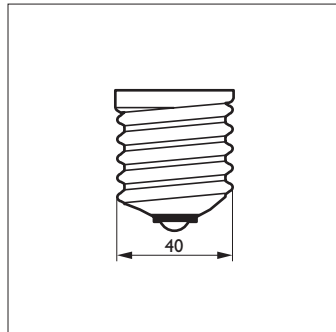
SON-T 100W/150W/250W/400W

**Photometric diagram**



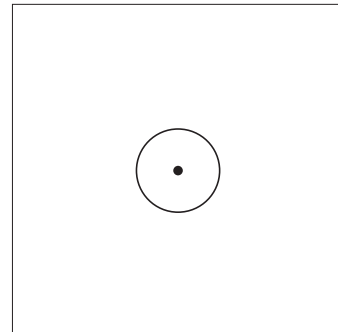
SON-T

**Cap Base**



E40

**Operating position**



any





SON PIA E27

**Product Description**

- High Pressure Sodium lamp with opalized ovoid outer bulb, long reliable lifetime and no Mercury

**Product Features**

- Ovoid, internally white coated outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrAl getter ensures high lumen maintenance and few early failures
- 150 W - 400 W mercury free; 50 W / 70 W filled with sodium-mercury amalgam
- Completely lead-free lamps

**Product Benefits**

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- Absence of mercury and lead makes this an environmentally sound offer

**Application**

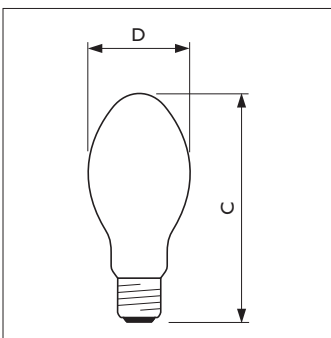
- Road and residential lighting
- Industrial area lighting
- Recreational sports facilities indoor and outdoor

**Environment**

- Good environmental choice because of high energy efficiency, long reliable life and mercury free
- Products are Philips Green product
- Products are RoHS compliant
- Products are covered by WEEE

**Recommended gear page 3.170**

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SON PIA

Type	CMax	DMax
MASTER SON PIA 50W/70W/220 E27 SLV	156	71
MASTER SON PIA Hg Free 150W/250W/221 E40 SLV	227	91
MASTER SON PIA Hg Free 400W/221 E40 SLV	290	121.5

**Technical data**



Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
MASTER SON PIA 50W/220 E27 SLV	0.76	50.0	90	50	No	1800	198	5	4	28000
MASTER SON PIA 70W/220 E27 SLV	0.98	70.0	90	70	No	1800	198	5	4	28000
MASTER SON PIA Hg Free 150W/221 E40 SLV	1.8	150.0	98	150	No	2800	198	10	4	32000
MASTER SON PIA Hg Free 250W/221 E40 SLV	3	250.0	100	250	No	2800	198	10	5	32000
MASTER SON PIA Hg Free 400W/221 E40 SLV	4.6	400.0	98	400	No	2800	198	10	5	32000

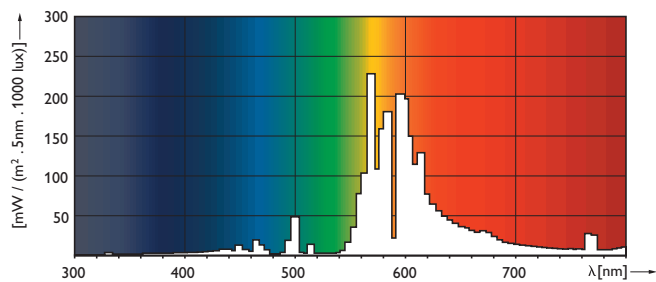
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
MASTER SON PIA 50W/220 E27 SLV	3500	70	2000	25	540	415	any
MASTER SON PIA 70W/220 E27 SLV	5600	80	2000	25	540	415	any
MASTER SON PIA Hg Free 150W/221 E40 SLV	14500	97	2150	25	525	436	any
MASTER SON PIA Hg Free 250W/221 E40 SLV	27000	108	2150	25	516	436	any
MASTER SON PIA Hg Free 400W/221 E40 SLV	48000	120	2150	25	519	436	any

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SON PIA 50W/220 E27 SLV	SE-50-H/E-E27	8711500201447	0.051 kg	24	45.5 cm x 30.7 cm x 16.8 cm	8711500201454	201447 30
MASTER SON PIA 70W/220 E27 SLV	SE-70-H/E-E27	8711500201461	0.052 kg	24	45.5 cm x 30.7 cm x 16.8 cm	8711500201478	201461 30
MASTER SON PIA Hg Free 150W/221 E40 SLV	SE-150-H/E-E40	8711500200570	0.169 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500200587	200570 15
MASTER SON PIA Hg Free 250W/221 E40 SLV	SE-250-H/E-E40	8711500200556	0.18 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500200563	200556 15
MASTER SON PIA Hg Free 400W/221 E40 SLV	SE-400-H/E-E40	8711500200532	0.24 kg	12	51.9 cm x 39.2 cm x 33.1 cm	8711500200549	200532 15

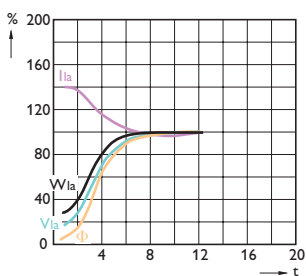
**Spectral power distribution**



SON PIA

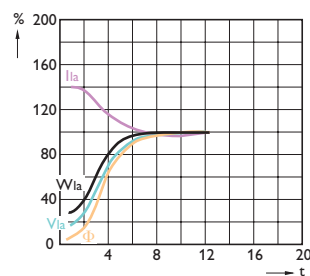
**Performance diagram**

Lamp performance during run up



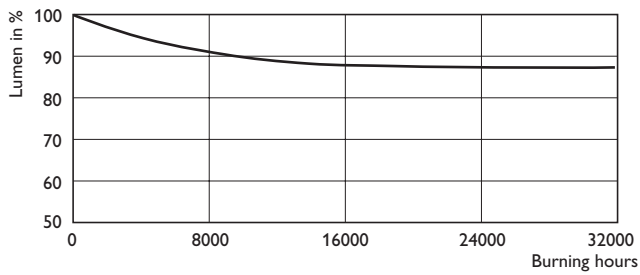
SON PIA Hg Free

Lamp performance during run up

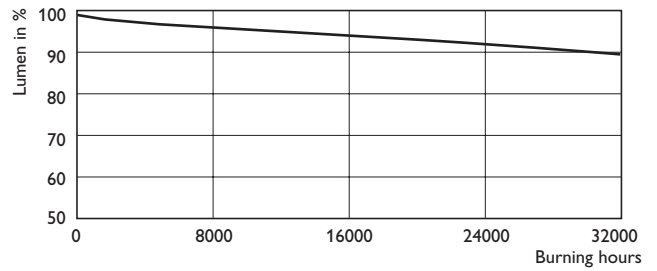


SON PIA ST 50W/70W

**Lumen maintenance diagram**

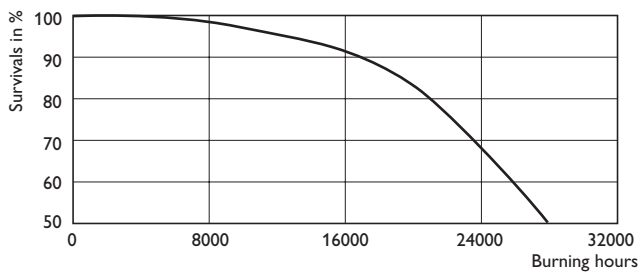


SON PIA 50W/70W

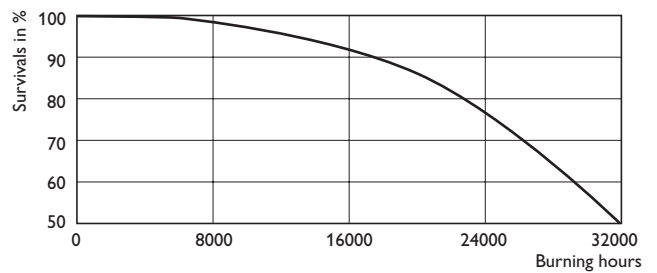


SON PIA 100W/150W/250W/400W

**Life expectancy diagram**

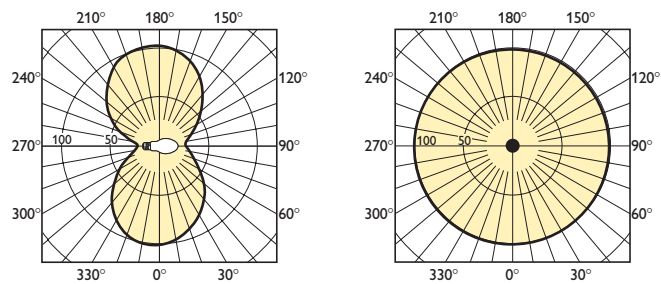


SON PIA 50W/70W



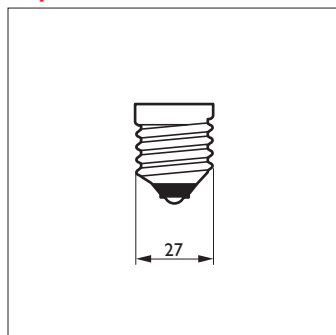
SON PIA 100W/150W/250W/400W

**Photometric diagram**

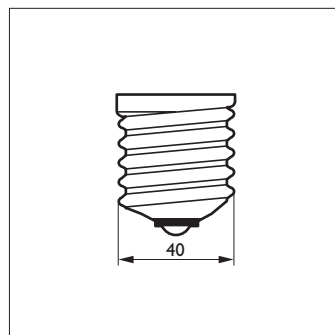


SON PIA

**Cap Base**

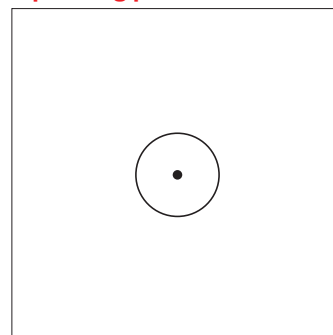


E27



E40

**Operating position**



any





SON-T E40

### Applications

- For use in road and residential lighting
- Decorative floodlighting
- Commercial and industrial applications
- Recreational sports facilities Outdoor and Indoor

### Why choose?

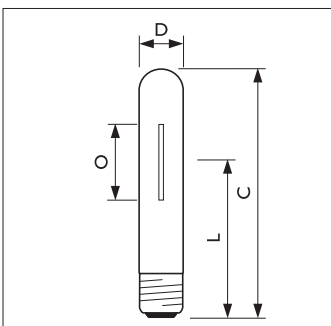
- Energy efficiency
- SON-T Pro is a cost-efficient and reliable solution in High Pressure Sodium, offering good value for money

### Technical Features

- High Pressure Sodium lamp with clear outer bulb
- Clear tubular outer bulb
- Robust construction is vibration- and shock-resistant leading to a reliable life
- Dimming possible with dedicated gear

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



SON-T

Type	C	D	L	O
SON-T 70W	156	37	102	42
SON-T 100W	210	46	132	44
SON-T 150W	211	47	132	61
SON-T 250W	257	47	158	70
SON-T 400W	283	47	175	87
SON-T 1000W	390	66	240	153



**Preferred selection**

Product ID	Ignitor Kind	Cap/ Base	Packing Configuration	Colour Rendering Index (R <sub>a</sub> )	Colour Temperature (K)	Luminous Flux Lamp EM (lm)	Operating Position	Order Code
								<b>8711500</b>
SON-T 70W	E	E27	12	25	2000	6000	ANY	210 42515
SON-T 100W	E	E40	12	25	2000	9000	ANY	9284 815 00091
SON-T 150W	E	E40	12	25	2000	15000	ANY	210 46315
SON-T 250W	E	E40	12	25	2000	28000	ANY	210 52415
SON-T 400W	E	E40	12	25	2000	45000	ANY	210 56215
SON-T 1000W	E	E40	4	25	2000	130000	ANY	210 60945

Product ID	Lamp Voltage (V)	Bulb Shape	Bulb Finish	Dimmable	Lamp. Current EM (A)	Luminous Efficacy Lamp EM (lm/W)
SON-T 70W	90	T31	Clear	Yes	0.98	86
SON-T 100W	100	T46	Clear	-	1.2	90
SON-T 150W	100	T46	Clear	Yes	1.8	100
SON-T 250W	100	T46	Clear	Yes	3	112
SON-T 400W	100	T46	Clear	Yes	4.6	120
SON-T 1000W	105	T65	Clear	Yes	10.6	130

Product ID	Lamp Wattage EM (W)	Recommended Ballast	Net weight per piece (g)	System Description	Luminance Average EM (cd/cm <sup>2</sup> )
SON-T 70W	70	BSN70L33 TS	45	External ignitor	270
SON-T 100W	100	-	134	External ignitor	-
SON-T 150W	150	BSN150L33 TS	136	External ignitor	300
SON-T 250W	250	BSN250L33 TS	170	External ignitor	400
SON-T 400W	392	BSN400L33 TS	175	External ignitor	550
SON-T 1000W	1000	BSN1000L78	404	External ignitor	650



SON E27

### Applications

- For use in road and residential lighting
- Decorative floodlighting
- Commercial and industrial applications

### Why choose?

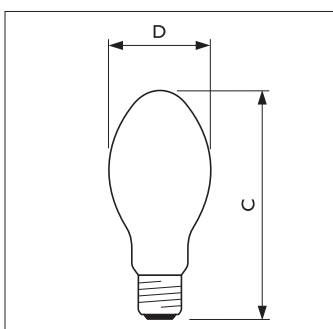
- Energy efficiency
- SON Pro is a cost-efficient and reliable solution in High Pressure Sodium, offering good value for money

### Technical Features

- Ovoid, internally white coated outer bulb
- Robust construction is vibration- and shock-resistant leading to a reliable life
- Dimming possible with dedicated gear
- Require a ballast and ignitor, except for SON 70W I lamps which have an internal ignitor

Recommended gear page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



SON E27

Type	C	D
SON 70W	156	71
SON 150W/250W	227	91
SON 400W	290	122

**Preferred selection**

Product ID	Ignitor Kind	Cap/ Base	Packing Configuration	Colour Rendering Index (R <sub>a</sub> )	Colour Temperature (K)	Luminous Flux Lamp EM (lm)	Operating Position	Order Code
								<b>871 1500</b>
SON 70W	E	E27	24	25	2000	5600	ANY	210 24130
SON 70W	I	E27	24	25	2000	5600	ANY	9284 806 00092
SON 150W	E	E40	12	25	2000	14500	ANY	210 28915
SON 250W	E	E40	12	25	2000	27000	ANY	210 38815
SON 400W	E	E40	12	25	2000	48000	ANY	210 32615

Product ID	Lamp Voltage (V)	Bulb Shape	Bulb Finish	Dimmable	Lamp. Current EM (A)	Luminous Efficacy Lamp EM (lm/W)
SON 70W	90	B70	Coated	Yes	0.98	80
SON 70W	90	B70	Coated	Yes	0.98	80
SON 150W	100	BD90	Coated	Yes	1.8	99
SON 250W	100	BD90	Coated	Yes	3	108
SON 400W	105	BD120	Coated	Yes	4.45	120

Product ID	Lamp Wattage EM (W)	Recommended Ballast	Net weight per piece (g)	System Description	Luminance Average EM (cd/cm <sup>2</sup> )	Ignition Supply Voltage min. (V)
SON 70W	70	BSN70L33 TS	52	External ignitor	6.6	198
SON 70W	70	BSN70L33 TS	57	External ignitor	6.6	198
SON 150W	147	BSN150L33 TS	180	External ignitor	-	198
SON 250W	250	BSN250L33 TS	175	External ignitor	19	198
SON 400W	400	BSN400L33 TS	240	External ignitor	24	198



SON-T

**Product Description**

- High Pressure Sodium lamp with clear tubular outer bulb and a comfortable colour impression

**Product Features**

- Clear tubular outer bulb
- Warm white colour temperature and acceptable colour rendering to create a pleasant ambience
- Robust construction is vibration- and shock-resistant leading to a reliable life

**Product Benefits**

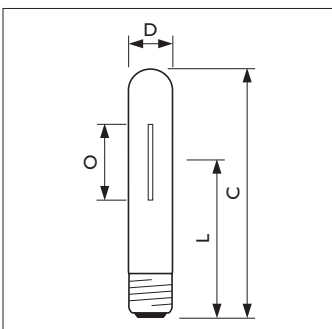
- The ideal balance between colour impression and energy efficacy

**Application**

- City centres and residential areas
- Decorative floodlighting
- Commercial and industrial applications
- Recreational sports facilities indoor and outdoor

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



SON-T

Type	CMax	DMax	LNom	ONom
SON-T Comfort 150W/621 E40 SLV	211	47	132	43
SON-T Comfort 250W/621 E40 SLV	257	47	158	53
SON-T Comfort 400W/621 E40 SLV	283	47	175	59

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON-T Comfort 150W	1.82	150.0	105	150	No	2800	198	5	6	20000
SON-T Comfort 250W	3.05	250.0	105	250	No	2800	198	5	15	20000
SON-T Comfort 400W	4.5	400.0	100	400	No	2250	198	10	15	20000

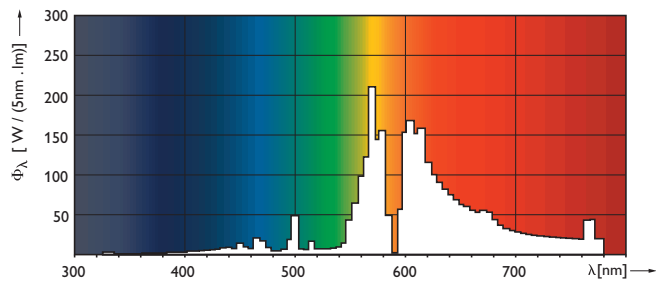
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON-T Comfort 150W/621 E40 SLV	13000	87	2150	65	513	419	any
SON-T Comfort 250W/621 E40 SLV	23000	92	2150	65	514	420	any
SON-T Comfort 400W/621 E40 SLV	38000	95	2150	65	510	415	any

**Ordering and packing data**

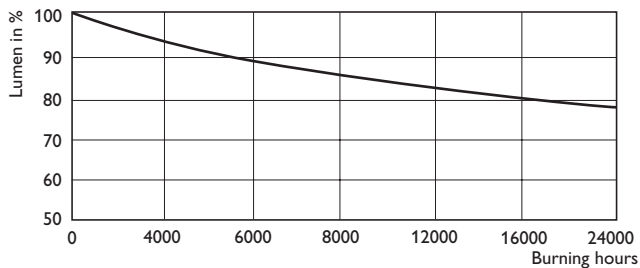
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SON-T Comfort 150W/621 E40 SLV	STM-150-H/E-E40	8711500192288	0.134 kg	12	24 cm x 16.7 cm x 22.1 cm	8711500192707	192288 15
SON-T Comfort 250W/621 E40 SLV	STM-250-H/E-E40	8711500179852	0.166 kg	12	22.5 cm x 16.9 cm x 29.3 cm	8711500183187	179852 15
SON-T Comfort 400W/621 E40 SLV	STM-400-H/E-E40	8711500179869	0.177 kg	12	22.5 cm x 16.9 cm x 31.1 cm	8711500182913	179869 15

**Spectral power distribution**



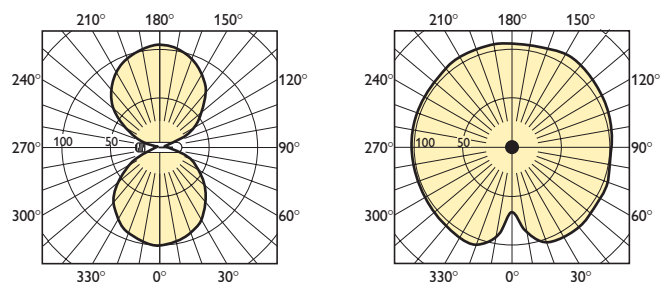
SON-T

**Lumen maintenance diagram**



SON-T

**Photometric diagram**

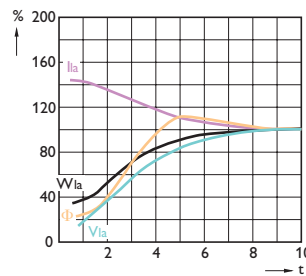


SON-T

**PHILIPS**

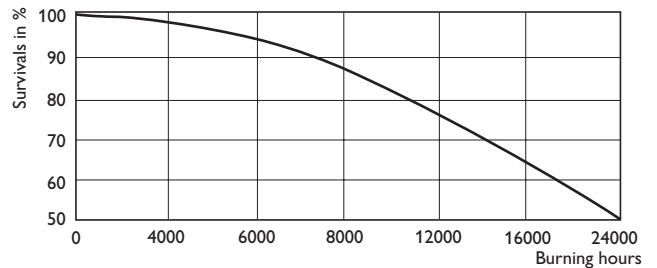
**Performance diagram**

Lamp performance during run up



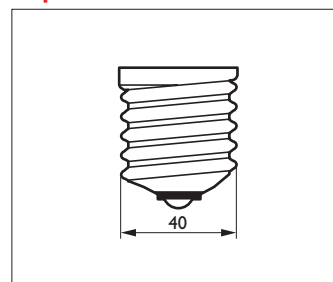
SON-T

**Life expectancy diagram**



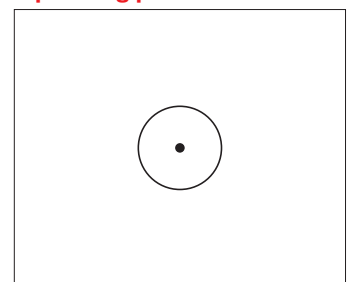
SON-T

**Cap Base**



E40

**Operating position**



any



SON E40

**Product Description**

- High Pressure Sodium lamp with opalized, ovoid outer bulb and a comfortable colour impression

**Product Features**

- Ovoid, internally white coated outer bulb
- Warm white colour temperature and acceptable colour rendering to create a pleasant ambience
- Robust construction is vibration- and shock-resistant leading to a reliable life

**Product Benefits**

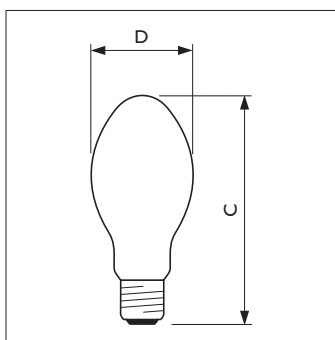
- The ideal balance between colour impression and energy efficacy

**Application**

- City centres and residential areas
- Commercial and industrial applications

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



SON

Type	CMax	DMax
SON Comfort 150W/250W/621 E40 SLV	227	91
SON Comfort 400W/621 E40 SLV	290	121.5

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Peak Voltage (V)	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON Comfort 150W/621 E40 SLV	1.82	150.0	105	150	No	2800	198	5	6	20000
SON Comfort 250W/621 E40 SLV	3	250.0	105	250	No	2800	198	5	15	20000
SON Comfort 400W/621 E40 SLV	4.45	400.0	105	400	No	2250	198	10	15	20000

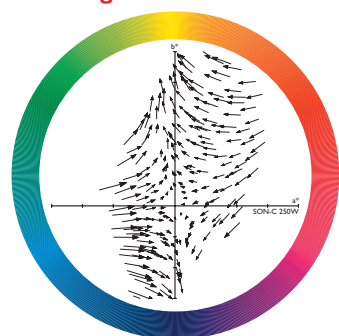
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON Comfort 150W/621 E40 SLV	12500	83	2150	65	513	419	any
SON Comfort 250W/621 E40 SLV	22000	88	2150	65	513	419	any
SON Comfort 400W/621 E40 SLV	37000	93	2150	65	513	419	any

**Ordering and packing data**

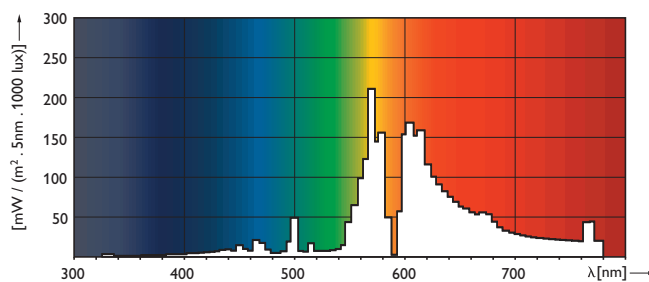
Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SON Comfort 150W/621 E40 SLV	SEM-150-H/E-E40	8711500182166	0.172 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182173	182166 15
SON Comfort 250W/621 E40 SLV	SEM-250-H/E-E40	8711500182197	0.18 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182203	182197 15
SON Comfort 400W/621 E40 SLV	SEM-400-H/E-E40	8711500182227	0.24 kg	12	51.9 cm x 39.2 cm x 33.1 cm	8711500195944	182227 15

**CRV diagram**



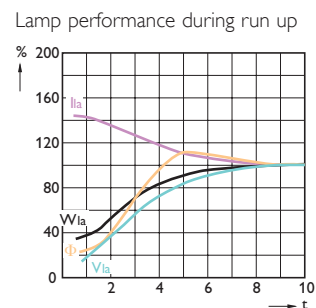
SON

**Spectral power distribution**



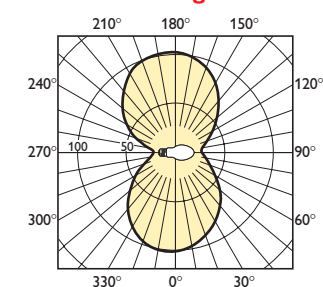
SON

**Performance diagram**

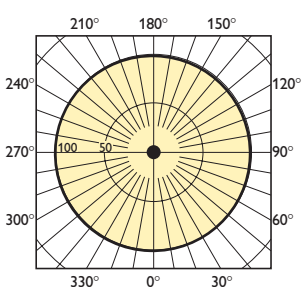


SON

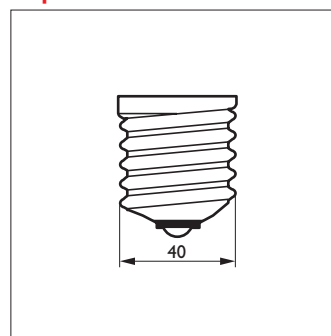
**Photometric diagram**



SON

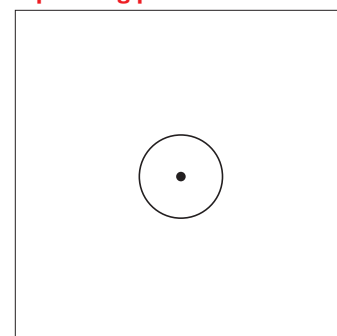


**Cap Base**



E40

**Operating position**



any



SON H E40

### Product Description

- High Pressure Sodium lamp with opalized outer bulb retrofit for High Pressure Mercury lamps

### Product Features

- Direct replacement for mercury lamps as they operate on the same control gear
- High luminous efficacy
- Robust construction is vibration- and shock-resistant leading to a reliable life

### Product Benefits

- Instant and cost-effective upgrade of light level and reduction of energy use replacing HPL

### Application

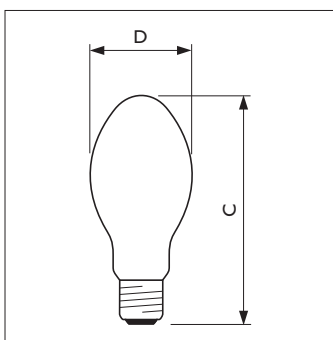
- Road and residential lighting
- Commercial and industrial applications

### System

- Require an HPL gear without ignitor

### Recommended gear page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



SON H

Type	CMax	DMax
SON H 68W/220 E27 SLV	164.4	71
SON H 110W/220 E27 SLV	169	71
SON H 220W/220 E40 SLV	227	91
SON H 350W/220 E40 SLV	290	121.5



## Technical data

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Ignition Time (sec)	Run-up time 90% (min)	Life to 50% failures (hrs)
SON H 68W/220 E27 SLV	0.815	69	107	68		198	10	5	28000
SON H 110W/220 E27 SLV	1.29	113	109	110	No	198	15	5	20000
SON H 220W/220 E40 SLV	2.2	220.0	120	220	No	190	10	5	20000
SON H 350W/220 E40 SLV	3.6	350.0	117	350	No	190	10	5	20000

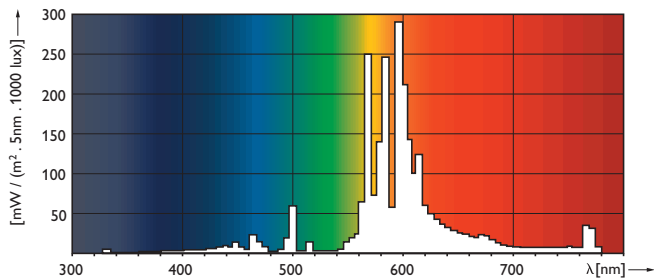
## Light data

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
SON H 68W/220 E27 SLV	5400	78	1810	20	554	410	any
SON H 110W/220 E27 SLV	10400	92	2000	25	532	416	any
SON H 220W/220 E40 SLV	20000	91	2000	25	530	410	any
SON H 350W/220 E40 SLV	34000	97	2000	25	525	415	any

## Ordering and packing data

Type	ILCOS	EAN code I piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
SON H 68W/220 E27 SLV	SEQ-70-H-E27	8711500213990	0.055 kg	24	45.6 cm x 30.8 cm x 17 cm	8711500214171	213990 30
SON H 110W/220 E27 SLV	SEQ-110-H-E27	8711500201867	0.06 kg	24	45.6 cm x 30.8 cm x 18.7 cm	8711500201874	201867 30
SON H 220W/220 E40 SLV	SEQ-220-H-E40	8711500182074	0.17 kg	12	40.3 cm x 30.5 cm x 26.9 cm	8711500182081	182074 15
SON H 350W/220 E40 SLV	SEQ-350-H-E40	8711500182135	0.236 kg	12	51.9 cm x 39.2 cm x 33.1 cm	8711500195913	182135 15

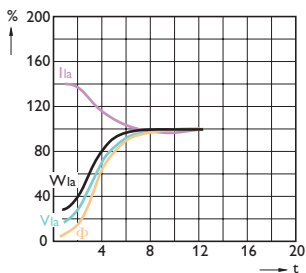
## Spectral power distribution



SON H

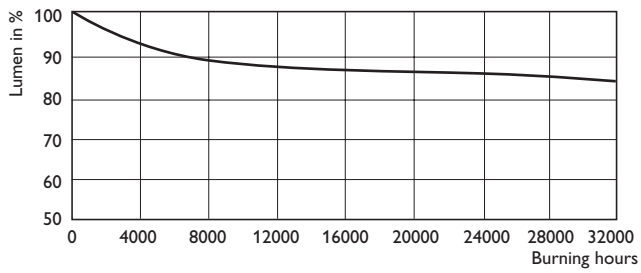
## Performance diagram

Lamp performance during run up

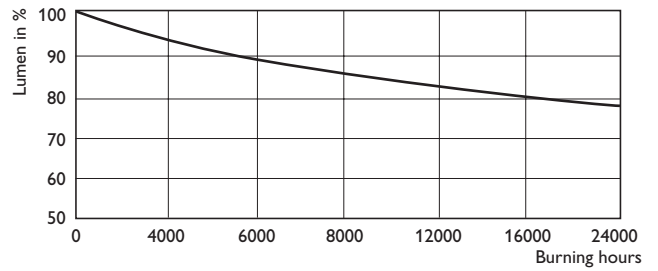


SON H

**Lumen maintenance diagram**

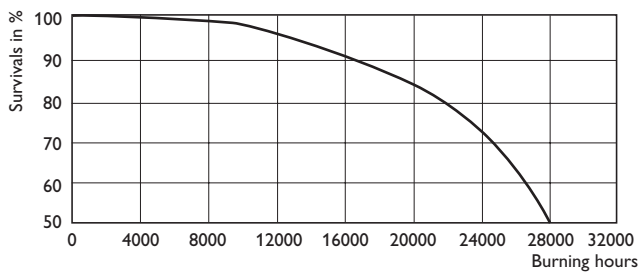


SON H 110W

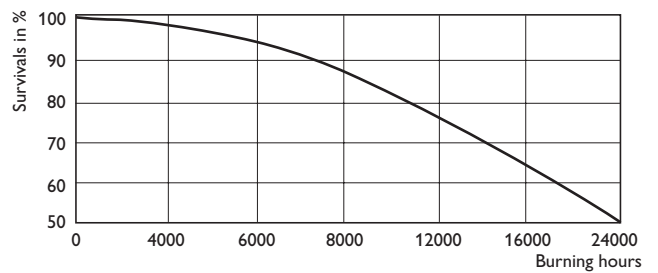


SON H 220W/350W

**Life expectancy diagram**

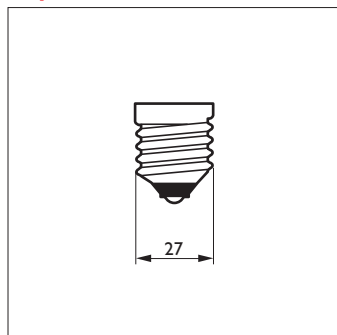


SON H 110W

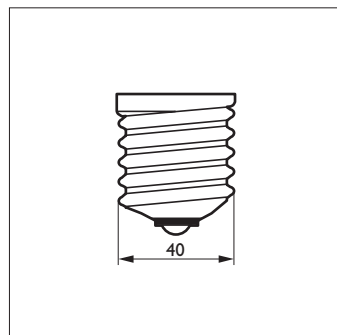


SON H 220W/350W

**Cap Base**

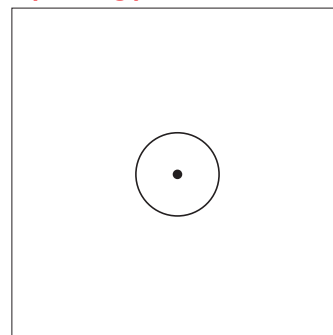


E27



E40

**Operating position**



any





SOX E

**Product Description**

- Low Pressure Sodium lamp with improved efficacy

**Product Features**

- Uniform sodium distribution in the discharge tube by means of dimples for a more stable discharge, higher efficacy and better lumen maintenance and lamp life
- Special coating of SOX-E outer tube results in higher lamp efficacy than SOX
- Monochromatic yellow colour with non-existent colour rendering

**Product Benefits**

- Extremely high luminous efficacy makes these the most efficient light sources

**Application**

- Road lighting, railway marshalling yards and crossings, airports, harbours and docks, quarries, foundries and rolling mills
- Security and orientation lighting

**System**

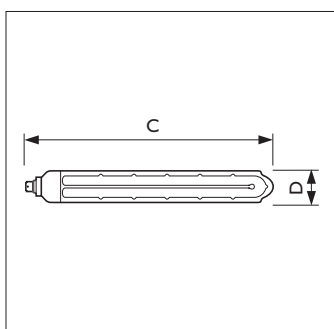
- On HF electronic gear SOX-E have even higher efficacy, saving up to 40% (system) energy

**Environment**

- Good environmental choice because of highest energy efficiency
- This product is covered by WEEE

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



SOX E

Type	CMax	DMax
MASTER SOX-E 18W BY22d 1SL	216	52
MASTER SOX-E 26W BY22d SLV	311	52
MASTER SOX-E 36W BY22d SLV	425	52
MASTER SOX-E 66W BY22d SLV	528	66
MASTER SOX-E 91W BY22d SLV	775	66
MASTER SOX-E 131W BY22d SLV	1120	66

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
MASTER SOX-E 18W BY22d ISL	0.35	18.0	57	18	No	18000
MASTER SOX-E 26W BY22d SLV	0.45	27	69	26	No	18000
MASTER SOX-E 36W BY22d SLV	0.35	36.0	120	36	No	18000
MASTER SOX-E 66W BY22d SLV	0.62	65.0	123	66	No	18000
MASTER SOX-E 91W BY22d SLV	0.62	90.0	173	91	No	18000
MASTER SOX-E 131W BY22d SLV	0.62	127	250	131	No	18000

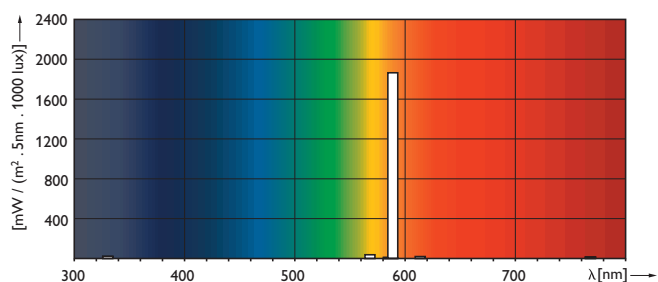
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Operating Position
MASTER SOX-E 18W BY22d ISL	1800	100	h110
MASTER SOX-E 26W BY22d SLV	3600	141	h110
MASTER SOX-E 36W BY22d SLV	6200	163	p20
MASTER SOX-E 66W BY22d SLV	10500	172	p20
MASTER SOX-E 91W BY22d SLV	17500	194	p20
MASTER SOX-E 131W BY22d SLV	26200	206	p20

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
MASTER SOX-E 18W BY22d ISL	LSE-E18-BY22d	8711500192806	150 gr	12	24 cm x 18 cm x 27.5 cm	8711500193407	192806 15
MASTER SOX-E 26W BY22d SLV	LSE-E26-BY22d	8711500179746	225 gr	12	25 cm x 19 cm x 39 cm	8711500182692	179746 15
MASTER SOX-E 36W BY22d SLV	LSE-E36-BY22d	8711500179760	300 gr	12	25 cm x 19 cm x 50.5 cm	8711500182739	179760 15
MASTER SOX-E 66W BY22d SLV	LSE-E66-BY22d-/H	8711500179784	483 gr	12	30 cm x 22.5 cm x 61 cm	8711500182777	179784 15
MASTER SOX-E 91W BY22d SLV	LSE-E91-BY22d-/H	8711500179807	717 gr	12	30 cm x 22.5 cm x 90 cm	8711500182814	179807 15
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500179821	1033 gr	6	120 cm x 22 cm x 15 cm	8711500599995	179821 10
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500196866	1033 gr	6	120 cm x 22 cm x 15 cm	8711500194916	196866 10
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500196873	1033 gr	6	120 cm x 22 cm x 15 cm	8711500194923	196873 10
MASTER SOX-E 131W BY22d SLV	LSE-E131-BY22d-/H	8711500196880	1033 gr	6	120 cm x 22 cm x 15 cm	8711500194862	196880 10

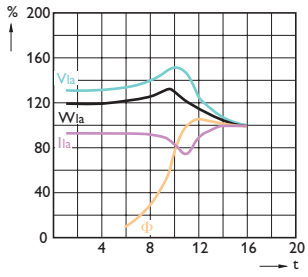
**Spectral power distribution**



SOX E 36W

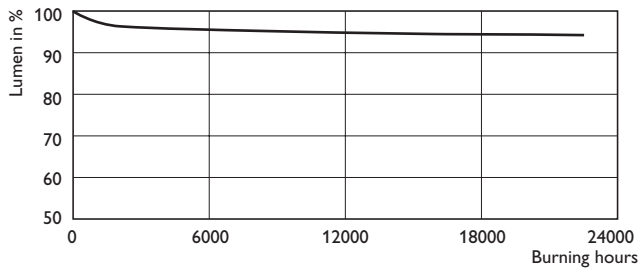
**Performance diagram**

Lamp performance during run up



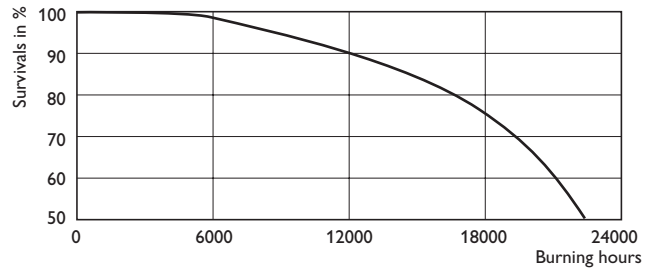
il

**Lumen maintenance diagram**



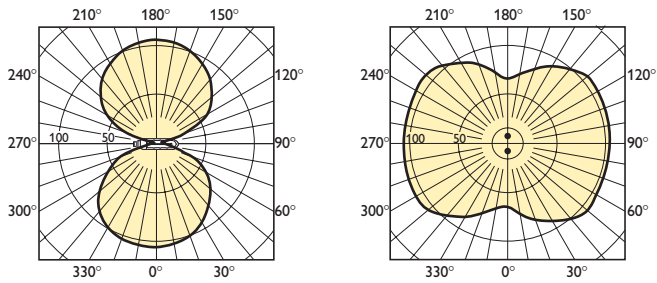
SOX E

**Life expectancy diagram**



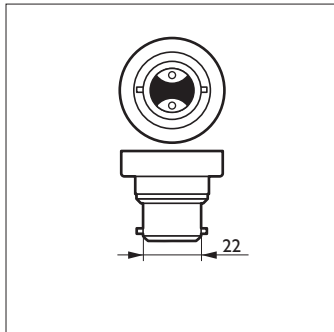
SOX E

**Photometric diagram**



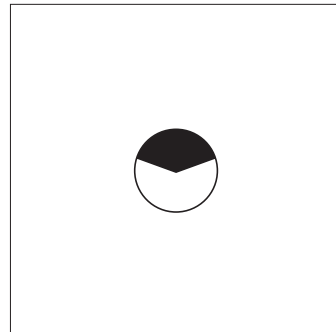
SOX E

**Cap Base**

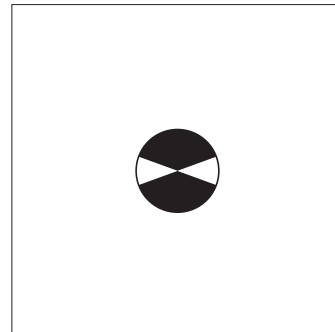


BY22d

**Operating position**

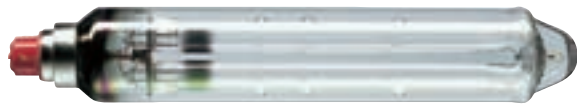


h110



p20





SOX

### Product Description

- Low Pressure Sodium lamp

### Product Features

- Uniform sodium distribution in the discharge tube by means of dimples for a more stable discharge, higher efficacy and better lumen maintenance and lamp life
- Monochromatic yellow colour with non-existent colour rendering

### Product Benefits

- High luminous efficacy leads to low energy consumption

### Application

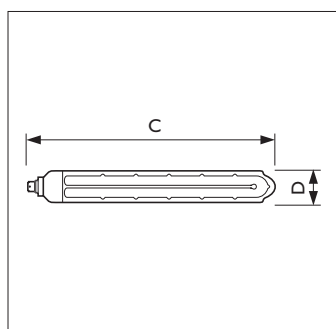
- Road lighting, railway marshalling yards and crossings, airports, harbours and docks, quarries, foundries and rolling mills
- Security and orientation lighting

### System

- On HF electronic gear SOX have even higher efficacy, saving up to 40% (system) energy

### Recommended gear page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



SOX

Type	CMax	DMax
SOX 35W BY22d ISL	311	52
SOX 55W BY22d ISL	425	52
SOX 90W BY22d ISL	528	66
SOX 135W BY22d ISL	775	66
SOX 180W BY22d ISL	1120	66



**Technical data**

Type	Lamp Wattage EM (W)	Lamp Voltage (V)	Lamp Current (A)	Rated Lamp Wattage	Dimmable	Life to 50% failures (hrs)
SOX 35W BY22d ISL	37	70	0.6	35	No	18000
SOX 55W BY22d ISL	56.0	109	0.59	55	No	18000
SOX 90W BY22d ISL	91.0	112	0.94	90	No	18000
SOX 135W BY22d ISL	135.0	164	0.95	135	No	18000
SOX 180W BY22d ISL	180.0	240	0.91	180	No	18000

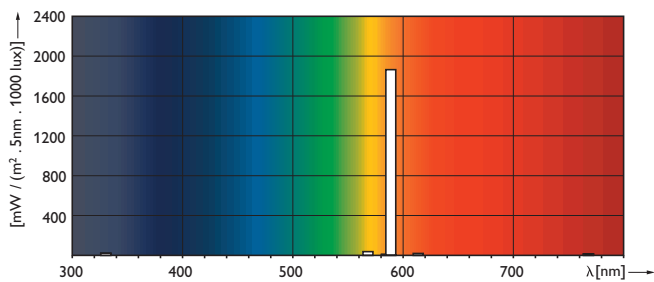
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Operating Position
SOX 35W BY22d ISL	4550	129	h110
SOX 55W BY22d ISL	7800	140	h110
SOX 90W BY22d ISL	13700	152	p20
SOX 135W BY22d ISL	22600	167	p20
SOX 180W BY22d ISL	32000	176	p20

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SOX 35W BY22d ISL	LS-35-BY22d	8711500179739	217 gr	12	25 cm x 19 cm x 39 cm	8711500182678	179739 15
SOX 55W BY22d ISL	LS-55-BY22d	8711500179753	300 gr	12	25 cm x 19 cm x 50.5 cm	8711500182715	179753 15
SOX 90W BY22d ISL	LS-90-BY22d-/H	8711500179777	483 gr	12	30 cm x 22.5 cm x 61 cm	8711500182753	179777 15
SOX 135W BY22d ISL	LS-135-BY22d-/H	8711500179791	708 gr	12	30 cm x 22.5 cm x 90 cm	8711500182791	179791 15
SOX 180W BY22d ISL	LS-180-BY22d	8711500179814	1033 gr	6	120 cm x 22 cm x 15 cm	8711500600004	179814 10
SOX 180W BY22d ISL	LS-180-BY22d	8711500599940	1033 gr	6	120 cm x 22 cm x 15 cm	8711500599957	599940 10
SOX 180W BY22d SLV	LS-180-BY22d	8711500179814	1033 gr	9	120 cm x 30 cm x 22.5 cm	8711500182838	179814 37

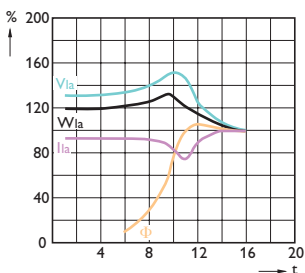
**Spectral power distribution**



SOX 55W

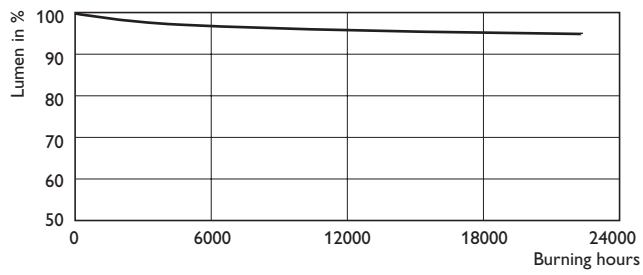
**Performance diagram**

Lamp performance during run up



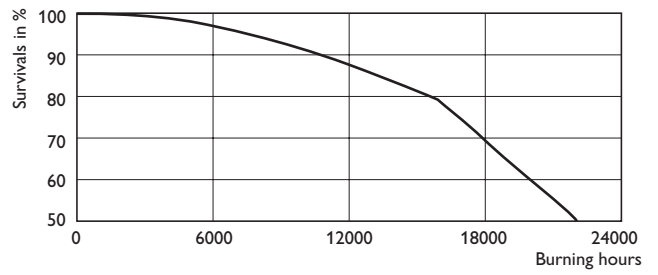
SOX

**Lumen maintenance diagram**



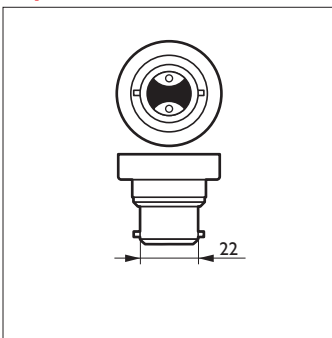
SOX

**Life expectancy diagram**



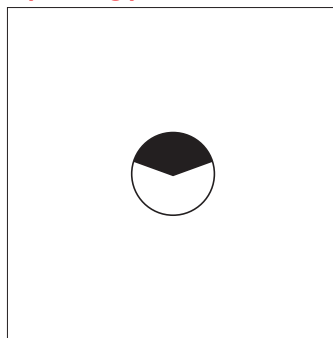
SOX

**Cap Base**

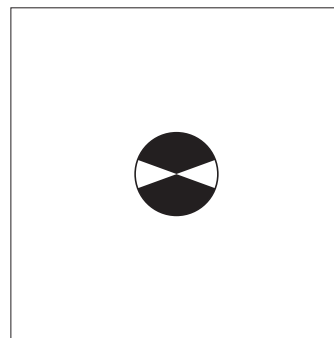


BY22d

**Operating position**



h110



p20





HPL E26/E27

**Product Description**

- High pressure mercury lamp with improved colour properties and light output

**Product Features**

- Equipped with one or two auxiliary electrodes to ensure quick and reliable ignition
- Special internal coating, providing warm white light with increased colour rendering
- Higher efficacy than standard HPL

**Product Benefits**

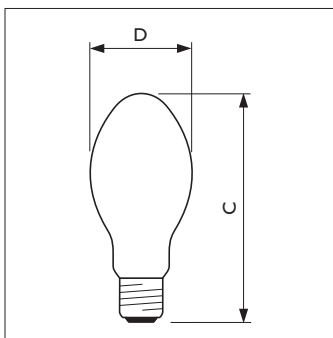
- Creates a comfortable atmosphere at limited investment
- High safety level thanks high light output

**Application**

- Public roads and residential areas, factories, transport sector and industrial area lighting

**Recommended gear page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)



HPL E26/E27/E40

Type	CMax	DMax
HPL Comfort 50W/534 E27 SG SLV	130	56
HPL Comfort 80W/534 E27 SG SLV	155	71
HPL Comfort 125W/534 E27 SG SLV	173	76
HPL Comfort 250W E40 HG CRP	226	91
HPL Comfort 400W E40 HG CRP	286	121.5

**Technical data**

Type	Lamp Current EM (A)	Lamp Wattage EM (W)	Lamp Voltage (V)	Rated Lamp Wattage	Dimmable	Ignition Supply Voltage (V)	Life to 50% failures (hrs)
HPL Comfort 50W/534 E27 SG SLV	0.61	50.0	95	50	No	180	16000
HPL Comfort 80W/534 E27 SG SLV	0.8	80.0	115	80	No	180	16000
HPL Comfort 125W/534 E27 SG SLV	1.15	125.0	125	125	No	180	16000
HPL Comfort 250W E40 HG CRP	2.13	250.0	135	250	No	180	16000
HPL Comfort 400W E40 HG CRP	3.25	400.0	140	400	No	180	20000

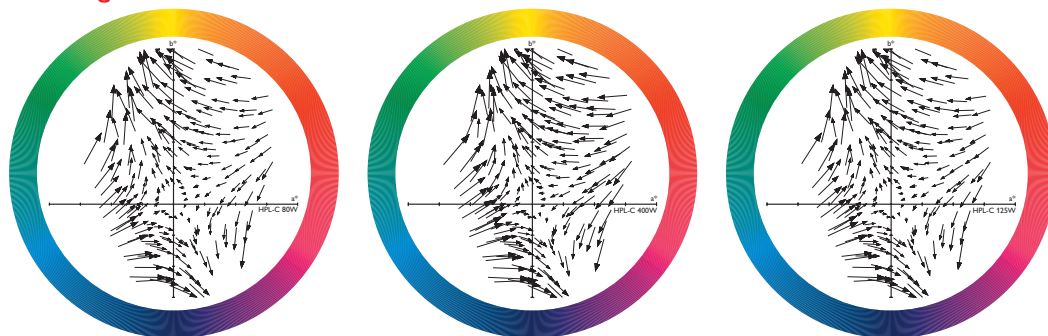
**Light data**

Type	Luminous Flux Lamp EM (lm)	Luminous Efficacy Lamp EM (lm/W)	Colour Designation	Colour Temperature (K)	Colour Rendering Index (Ra)	Chromaticity Coordinate X	Chromaticity Coordinate Y	Operating Position
HPL Comfort 50W/534 E27 SG SLV	1800	36	White	3400	58	405	383	any
HPL Comfort 80W/534 E27 SG SLV	3600	45	White	3400	57	403	380	any
HPL Comfort 125W/534 E27 SG SLV	6200	49.5	White	3400	55	408	385	any
HPL Comfort 250W E40 HG CRP	14200	57	White	3300	51	419	392	any
HPL Comfort 400W E40 HG CRP	24200	61	White	3500	47	413	392	any

**Ordering and packing data**

Type	ILCOS	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HPL Comfort 50W/534 E27 SG SLV	QE-50/35/3-H-E27	8711500180872	0.045 kg	24	24.5 cm x 18.5 cm x 27 cm	8711500194077	180872 30
HPL Comfort 80W/534 E27 SG SLV	QE-80/35/3-H-E27	8711500180902	0.05 kg	24	34 cm x 26.8 cm x 33.4 cm	8711500180919	180902 30
HPL Comfort 125W/534 E27 SG SLV	QE-125/34/3-H-E27	8711500180995	0.07 kg	24	48 cm x 32.4 cm x 19.5 cm	8711500181008	180995 30
HPL Comfort 250W E40 HG CRP	QE-250/33/3-H-E40	8711500181022	0.198 kg	12	40.5 cm x 30.5 cm x 25.8 cm	8711500181039	181022 15
HPL Comfort 400W E40 HG CRP	QE-400/35/3-H-E40	8711500181053	0.253 kg	6	38.4 cm x 25.9 cm x 33.9 cm	8711500181060	181053 10

**CRV diagram**

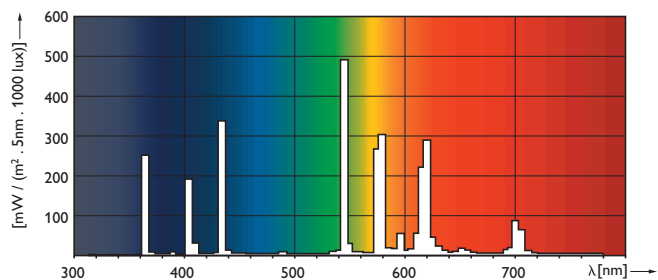


HPL Comfort 80W

HPL Comfort 400W

HPL Comfort 50W/125W/250W

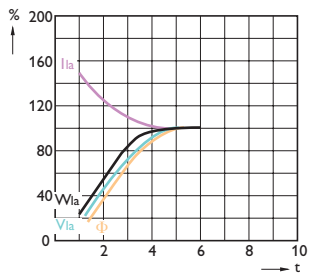
**Spectral power distribution**



HPL Comfort

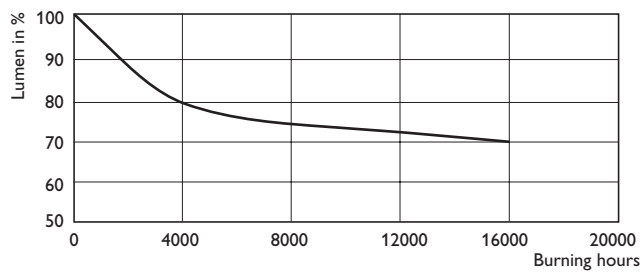
**Performance diagram**

Lamp performance during run up



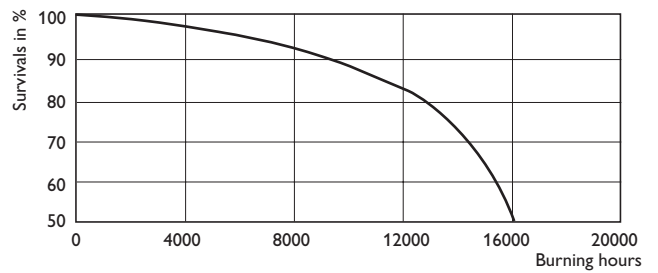
HPL

**Lumen maintenance diagram**



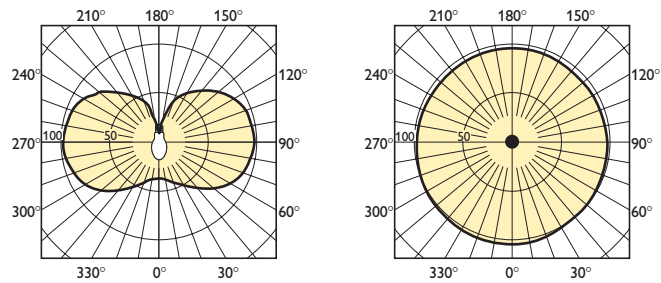
HPL 50W/80W/125W/250W/400W

**Life expectancy diagram**



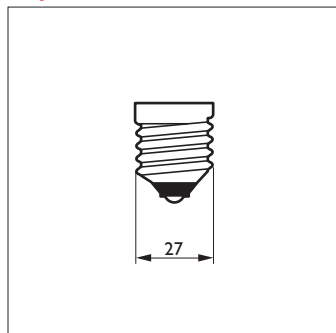
HPL 50W/80W/125W/250W/400W

**Photometric diagram**

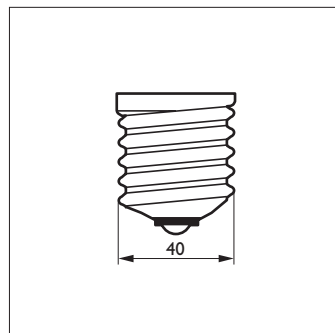


HPL Comfort 250W

**Cap Base**

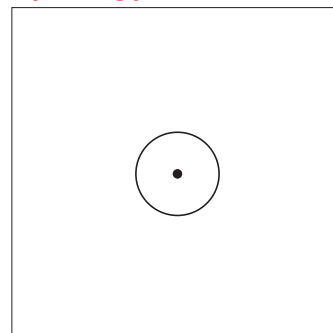


E27



E40

**Operating position**



any





**Applications**

- All outdoor applications, factories, transport sector and industrial area lighting

**Why choose?**

- Low initial costs (higher lifetime costs)

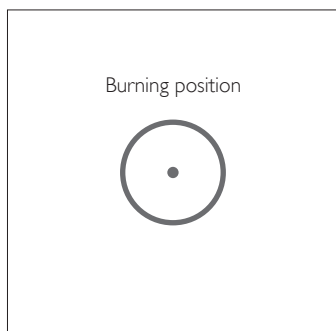
**Product Features**

- Standard High Pressure Mercury lamp
- Equipped with 1 electrode to ensure quick and reliable ignition
- Single-ended gas-filled glass bulb (HG-SG) with a quartz mercury vapour discharge tube
- Internally coated ovoid outer bulb, providing a cool, bluish white light with reasonable colour qualities

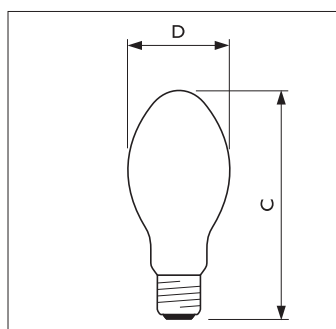
**Recommended gear page 3.170**

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HPL E40



Universal



HPL-N

Type	C	D
HPL-N 50W	129	55
HPL-N 80W	154	70
HPL-N 125W	172	75
HPL-N 250W	227	90
HPL-N 400W	289	121



**Preferred selection**

Product ID	Cap/ Base	Packing Configuration	Colour Rendering Index (R <sub>a</sub> )	Colour Temperature (K)	Luminous Flux Lamp EM (lm)	Operating Position	Order Code
HPL-N 50W/542	E27	24	49	4200	1800	ANY	9280 505 07396
HPL-N 80W/542	E27	24	48	4200	3700	ANY	9280 510 07396
HPL-N 125W/542	E27	24	46	4100	6200	ANY	9280 520 07396
HPL-N 250W/542	E40	12	45	4100	12700	ANY	9280 530 07496
HPL-N 400W/542	E40	6	45	3900	22000	ANY	9280 535 07496

Product ID	Lamp Voltage (V)	Bulb Finish	Lamp. Current EM (A)	Luminous Efficacy Lamp EM (lm/W)	Lamp Wattage EM (W)	Soft Glass/ Hard Glass
HPL-N 50W/542	95	Coated	0.61	36	50	SG
HPL-N 80W/542	115	Coated	0.8	44.5	84	SG
HPL-N 125W/542	125	Coated	1.15	50	125	SG
HPL-N 250W/542	135	Coated	2.1	51	250	HG
HPL-N 400W/542	140	Coated	3.25	55	400	HG

Product ID	Recommended Ballast	Net weight per piece (g)	Colour Designation
HPL-N 50W/542	BHL50L202	45	Cool White
HPL-N 80W/542	BHL80L202	57	Cool White
HPL-N 125W/542	BHL125L202	63	Cool White
HPL-N 250W/542	BHL250L02	184	Cool White
HPL-N 400W/542	??	??	??



**Applications**

- Public outdoor lighting, car parks, workshops, garages and shops

**Why choose?**

- Direct retrofit for incandescent lamps
- Higher efficacy and lifetime than incandescent

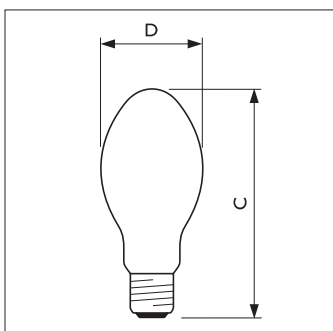
**Technical Features**

- High-pressure mercury tube in series with a tungsten filament
- Runs on mains voltage without additional gear
- Combines a continuous spectrum from the incandescent source and a line spectrum from the high-pressure mercury source
- It is recommended to protect ML against water splashes
- ML lamps are not dimmable

**Recommended gear page 3.170**

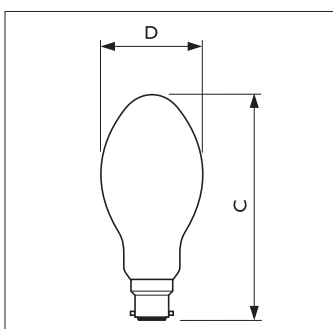
[www.philips.com/OEM](http://www.philips.com/OEM)

ML E27



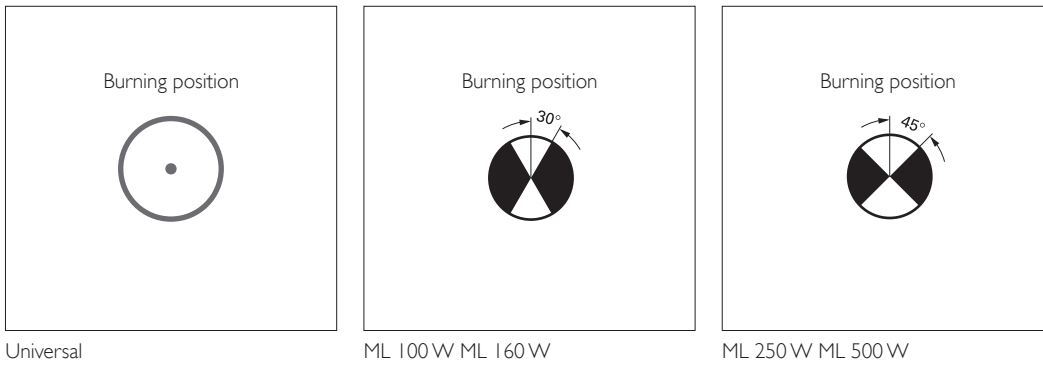
ML E27/E40

Type	C	D
160W B22	165	75
100W E27	154	70
160W E27	172	75
250W E27	216	90
250W E40	226	90
500W E40	289	120



ML B22

Type	C	D
160W B22	165	75
100W E27	154	70
160W E27	172	75
250W E27	216	90
250W E40	226	90
500W E40	289	120



Universal

ML 100 W ML 160 W

ML 250 W ML 500 W

**Preferred selection**

Product ID	lamp Base	Packaging Configuration	Soft Glass/ Hard glass	Colour Rendering Index (R <sub>a</sub> )	Colour Temperature (K)	Luminous flux lamp EM (lm)	Order Code
ML100W	E27	24	SG	72	3300	1100	9280 900 57296
ML160W	B22	24	SG	65	3600	3150	9286 010 11401
ML160W	E27	24	SG	65	3600	3150	9286 010 08988
ML250W	E27	12	SG	65	3400	5400	9280 960 56898
ML250W	E40	12	HG	65	3400	5400	9280 962 57296
ML250W	E40	12	SG	65	3400	5400	9286 010 09288
ML500W	E40	6	HG	48	3700	13000	9280 970 57796

Product ID	Voltage	Bulb Finish	Lamp Current EM (A)	Luminous Efficacy lamp EM (Lm/W)	Net weight per piece (g)	Ignition Supply Voltage min. (V)
ML100W	220-230V	coated	0.46	10.5	52	180
ML160W	220-230V	coated	0.76	19	64	180
ML160W	220-230V	coated	0.76	19	61	180
ML250W	225-235V	coated	1.2	21	184	180
ML250W	220-230V	coated	1.2	21	184	180
ML250W	220-230V	coated	1.2	21	184	180
ML500W	220-230V	coated	2.3	26	230	180
ML500W	225-235V	coated	2.3	26	230	180



# HID Control Gear

The Philips HID electronic gear range was designed for total compatibility with Philips HID lamps.

Philips is leader in the field of electronic technology and we have applied this knowledge to our developments of control gear for lighting products. Each lamp and gear combination requires extensive life testing before being released as a complete system. The result is an optimal light performance.

Our products are rapidly gaining years of proven reliability in running HID lamps, even in extreme outdoor environments. Our portfolio includes products to operate Low Pressure Sodium, High Pressure Sodium, Metal Halide, Compact HID, and CosmoPolis gear.

## **Electronic HID gear**

Many of the latest lamps can only be operated on modern electronic control gear. The use of electronic gear is generally advised for most lamp types because of the many advantages it brings to our end users

- High system efficiency to save energy
- Lower maintenance costs due to enhanced lumen maintenance and practical lamp life
- Compact size and low weight provide design flexibility and easy installation
- Constant lamp power; mains voltage fluctuations do not affect light output and give maximum lamp life
- No power factor correction needed so no capacitors to fail further reducing maintenance costs.
- Only one component to simplify installation and servicing.
- Above all, an electronic installation is future proofed, ready for the addition of centralised control systems.
- Electronic outdoor gear designed to resist physical stress (vibrations) and aggressive air contaminations (dust, moisture, etc)



Besides electronics a broad selection of electromagnetic gear is offered for wide range of lamp types and powers from 35W up to 2000W. You can rely on the experience of Philips and the fact that all Philips lamps are fully released that performance of Philips lamps are best on Philips gear.

#### **Electromagnetic HID gear**

Depending on the specific application and/or economic considerations, Philips can supply two types of electromagnetic ballasts; Heavy Duty and Basic gear types.

Heavy Duty gear is fully encapsulated and have a special protected bottom-plate for humid or aggressive environment conditions or were extra long lifetime and high reliability is needed.

HID-Basic gear is impregnated for general use in enclosed applications and should not be exposed to humid environments. All electromagnetic gear has been designed for a problem-free lifetime of 10 years continuous operation.

For both MH and high-pressure Sodium gear Philips offers conventional ballasts with internal thermal protection. These types can be recognised by the TS indication.

For the whole range of lamps, a full range of electronic ignitors is offered. Philips prefers and advice customers to use the so-called by Philips developed semi-parallel ignitors (also called impulser type). Together with the gear these ignitors induces ignition-pulses which takes care for reliable lamp-ignition under all conditions for both new and old lamps. The advances of the semi-parallel systems is that gear can be installed remotely (typically 20 meter between gear and lamp is possible). Furthermore has the system much lower watt losses and the ignitor is not in the lamp-current leads and thereby becomes very reliable.

Next step to reliability are the digital ignitors, these ignitor-types detect faulty lamps in an early stage and prevent cycling and unnecessary stress on the system, for CDM lamps these ignitors are obligatory.

Philips gear is designed for lowest watt losses and for ease of use tapping possibilities to select mains-voltages 230/240V, 50Hz and 220/230V, to limit the tables in this OEM-guide only 230/240V types are given.



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HID-PV

### Product Description

- Compact, one-piece, electronic drivers for high-pressure sodium (SON) lamps and metal halide (CDO) lamps

### Features and Benefits

- Lamp power independent of lamp life and mains voltage 203-254V
- Low-frequency, electronic gear for stable, flicker-free lamp operation; increases lamp life by 20 – 30% depending on application
- Self-stopping facility prevents cycling of old lamps
- Full protection of driver and installation against fault conditions such as overtemperature and end of lamp life
- Suitable for use in outdoor luminaires
- Cage clamp terminal connections with push-button release
- Simple installation and cabling

### Applications

- Road / tunnel lighting
- Residential lighting
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

### Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

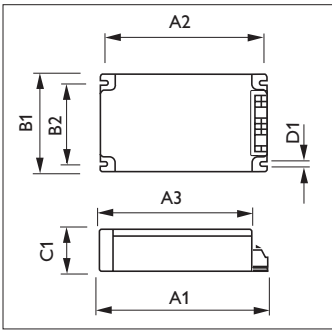
### Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

**Recommended lamp page 3.170**

**[www.philips.com/OEM](http://www.philips.com/OEM)**





HID-PV

Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision SON/CDO	150.0	134.0	136.0	90.0	70.0	40.0	4.5

**Inrush current**

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-P 70 /S SON/CDO 220-240V 50/60Hz	8	35	0.5
HID-P 100/150 /S SON/CDO 220-240V 50/60Hz	8	50	0.50

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-P 70 /S SON/CDO 220-240V	1	70	50/60	220-240	90	100	50	4.5	120
HID-P 100 /S SON/CDO 220-240V	1	100	50/60	220-240	90	100	50	4.50	120
HID-P 150 /S SON/CDO 220-240V	1	150	50/60	220-240	90	100	50	4.50	120

**Ordering and packing data**

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-P 70 /S SON/CDO 220-240V 50/60Hz	8711500930248	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500930255	930248 30
HID-P 100 /S SON/CDO 220-240V 50/60Hz	8711500928986	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500928993	928986 30
HID-P 150 /S SON/CDO 220-240V 50/60Hz	8711500929006	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500929013	929006 30

**Electrical installation notes**

Mains operation

Rated mains voltage	220 - 240 V
With tolerances for performance +6%-8	203 - 254 V
With tolerances for operation	180 - 264 V
Mains frequency	50/60 Hz
Power factor	> 0.98
Earth leakage current	< 0.5 mA per driver
Overvoltage protection	48 hrs at 325 Vac
	2 hrs at 366 Vac
	5 min. at 400 Vac

Lamp operation

Operation frequency (typical)	125 Hz
Ignition voltage 100/150W	3 - 4 kV
70W	2 - 2.5 kV

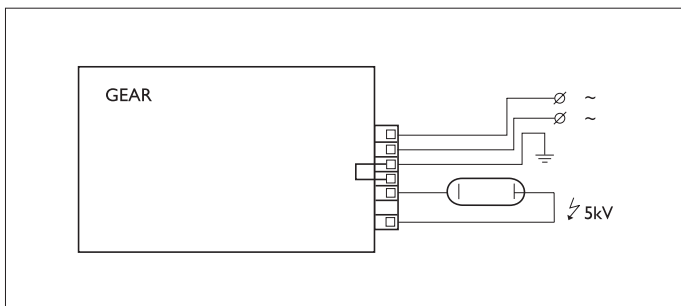
Cable capacity

SON	Max. 1 nF
CDO	Max. 200 pF

Air and creepage distance from any (metal) part that may become live, to earthed environment (class I) or test finger (class II) > 4 mm

Notes:

1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. For proper EMC, wiring inside luminaire should be as straight and as short as possible; mains wires should not run parallel to lamp wires.
3. Driver should be mounted in luminaire > min IP 23.
4. Thermo-protected circuit incorporates self-resetting facility; ignition attempts stop after 7 min.; mains supply must be switched off and on to reset driver.
5. Automatic restart after lamp replacement or voltage dip, lamp may take up to 18 min. to restart.
6. Insulation resistance test: 500 Vdc from Line/Neutral to Earth (not between Line and Neutral). Ensure that the Neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.



HID-PV

**Inrush current**

Conversion table for max. quantities of drivers on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of drivers
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm<sup>2</sup> and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of drivers can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of drivers is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of drivers is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of drivers by 20%.
6. The maximum number of drivers which can be connected to one Residual Current Detector of 30 mA is 30.

**Mechanical installation notes**

Wire cross-section:

On the mains side	0.75...2.5 mm <sup>2</sup>	advised rating: U <sub>o</sub> /U = 250/250V
On the lamp side	0.75...2.5 mm <sup>2</sup>	advised rating: U <sub>o</sub> /U = 250/250V
Strip length	6 mm	





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HID-DV

### Product Description

- Compact, one-piece, electronic dimming driver for built-in or stand-alone applications with high-pressure sodium (SON) and metal halide lamps (CDO)

### Features and Benefits

- 1-10V input for dim-control signal
- Lamp power independent of lamp life and mains voltage 203-254V
- Low-frequency, electronic, dimmable gear for stable, flicker-free lamp operation; increases lamp life by 20 – 30% depending on application
- SON lamps can be dimmed between 100 - 35% of power (100 - 20% light output)
- CDO lamps can be dimmed between 100 - 60% of power (100 - 50% light output)
- Self-stopping facility prevents cycling of old lamps
- Full protection of driver and installation against fault conditions such as overtemperature and end of lamp life
- Suitable for use in outdoor luminaires
- Cage clamp terminal connections with push-button release
- Simple installation and cabling

### Applications

- Road / tunnel lighting
- Residential lighting
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

### Quality

Philips Quality assures optimum quality regarding:

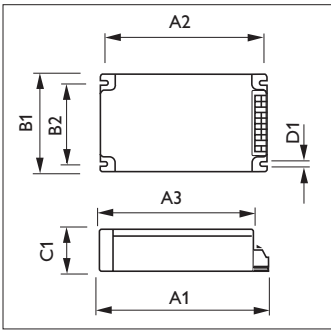
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

### Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

### Recommended lamp page 3.170

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HID-DV

Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-DynaVision I-10V SON/CDO	150.0	134.0	136.0	90.0	70.0	40.0	4.5

**Inrush current**

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-D I-10V 100/150 SON/CDO	8	50	0.5
HID-D I-10V 70 SON/CDO	12	35	0.5

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-D I-10V 100 /S CDO 220-240V	1	100	50/60	220-240	90	100	50	4.00	200
HID-D I-10V 100 /S SON 220-240V	1	100	50/60	220-240	90	100	50	4.00	1000
HID-D I-10V 150 /S CDO 220-240V	1	150	50/60	220-240	90	100	45	4.00	200
HID-D I-10V 150 /S SON 220-240V	1	150	50/60	220-240	90	100	45	4.00	1000
HID-D I-10V 70 /S CDO 220-240V	1	70	50/60	220-240	90	100	50	2.50	200
HID-D I-10V 70 /S SON 220-240V	1	70	50/60	220-240	90	100	50	2.50	1000

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
HID-D I-10V 100 /S CDO 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500931337	931320 30
HID-D I-10V 100 /S SON 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500749062	749055 30
HID-D I-10V 150 /S CDO 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500538109	538093 30
HID-D I-10V 150 /S SON 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500538086	538079 30
HID-D I-10V 70 /S CDO 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500931351	931344 30
HID-D I-10V 70 /S SON 220-240V 50/60Hz	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500927330	927323 30

**Electrical installation notes**

**Mains operation**

Rated mains voltage	220 - 240V
With tolerances for performance +6%-8%	203 - 254V
With tolerances for operation	180 - 264V
Mains frequency	50/60 Hz
Power factor 100% power	> 0.98
Power factor 35%, SON, 60%, CDO, power	> 0.93
Earth leakage current	< 0,5 mA per driver
Overvoltage protection	48 hrs at 325 Vac 2 hrs at 366 Vac 5 min. at 400 Vac

**Lamp operation**

Operation frequency (typical)	125 Hz
Ignition voltage	3 - 4 kV
Cable capacity	
SON	Max. 1 nF
CDO	Max. 200 pF
Air and creepage distance from any (metal) part that may become live, to earthed environment (class I) or test finger (class II)	> 4 mm

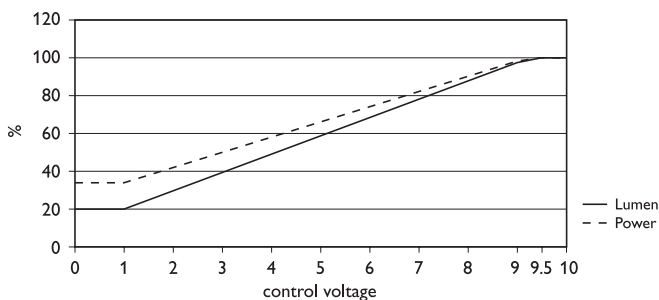
Notes:

1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. For proper EMC, wiring inside luminaire should be as straight and as short as possible; mains wires should not run parallel to lamp wires.
3. Driver should be mounted in luminaire > min IP 23.
4. Thermo-protected circuit incorporates self-resetting facility; ignition attempts stop after 7 min.; mains supply must be switched off and on to reset driver.
5. Insulation resistance test: 500 Vdc from Line/Neutral to Earth (not between Line and Neutral). Ensure that the Neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.

**Control Characteristics**

Control input	1-10V
Control potentiometer (to be connected on 1-10V input)	0-100 kΩ
Input is protected against mains voltage connection	
Dimming fading rates are implemented to guarantee optimal lamp behaviour for SON Lamps:	
Run up time before dimming*	5 minutes
Fade down time** (100%-20%)	< 1.5 minutes
Fade up time** (20%-100%)	< 1 minute
Power indication	35 - 100%
Corresponding light level (see graph)	20% - 100%
Behaviour for CDO Lamps:	
Run up time before dimming*	10 minutes
Fade down time** (100%-60%)	< 1.5 minutes
Fade up time** (60%-100%)	< 1 minute
Power indication	60 - 100%
Regulating light level (see graph)	50% - 100%

\* EMC attention should be given with cable > 3 mtr.  
 \*\* Run-up time, and fading down/up rates are determined to guarantee reliable lamp operations.



HID-DV 1-10V

**Inrush current**

Conversion table for max. quantities of drivers on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of drivers
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

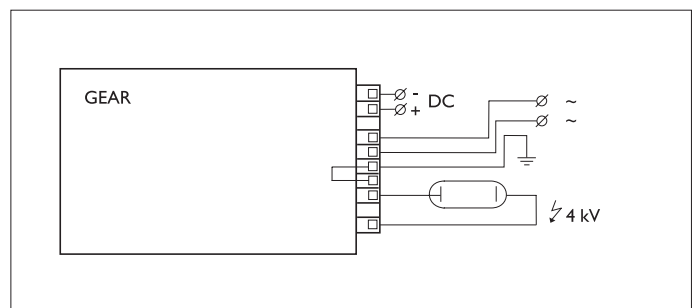
Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm<sup>2</sup> and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of driver can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of drivers is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of drivers is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of drivers by 20%.
6. The maximum number of drivers which can be connected to one Residual Current Detector of 30 mA is 30.

**Mechanical installation notes**

Wire cross-section:

On the mains side	0.75...2.5 mm <sup>2</sup>	advised rating: U <sub>o</sub> /U = 250/250V
On the lamp side	0.75...2.5 mm <sup>2</sup>	advised rating: U <sub>o</sub> /U = 250/250V
Strip length	6 mm	



HID-DV 1-10V





HID-DV

### Product Description

- Compact, one-piece, electronic dimming driver for built-in or stand-alone applications with high-pressure sodium (SON) and metal halide lamps (CDO)
- Digital DALI interface to communicate with and program the driver

### Features and Benefits

- DALI interface enables two way communication
- Lamp power independent of lamp life and mains-voltage 203-254V
- Low-frequency, electronic, dimmable gear for stable, flicker-free lamp operation; increases lamp life by 20 – 30% depending on application
- SON lamps can be dimmed between 100% - 35% of power (100 - 20% light output)
- CDO lamps can be dimmed between 100 - 60% of power (100 - 50% light output)
- Self-stopping facility prevents cycling of old lamps
- Full protection of driver and installation against fault conditions such as overtemperature and end of lamp life
- Suitable for use in outdoor luminaires
- Cage clamp terminal connections with push-button release
- Simple installation and cabling
- Can operate SDW 100W lamps but only 100% power (no dimming possible)

### Applications

- Road / tunnel lighting
- Residential lighting
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

### Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

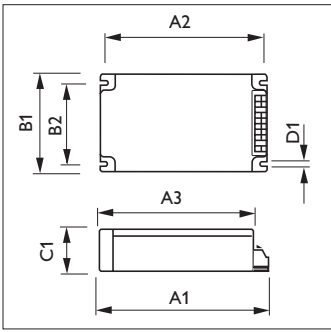
### Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 5 5022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

**Recommended gear page 3.170**

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HID-DV

Type	A1Nom	A2Nom	A3Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-DynaVision DALI	150.0	134.0	136.0	90.0	70.0	40.0	4.5

**Inrush current**

Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-D DALI 100-150 /S CDO/SON/SDW	6	50	0.45

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-D DALI 100-150 /S CDO/SON/SDW	1	100-150	50/60	220-240	90	100	45	4.00	1000

**Ordering and packing data**

Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-D DALI 100-150 /S CDO/SON/SDW	8711500928733	0.725 kg	10	39.8 cm x 16 cm x 11.1 cm	8711500928740	928733 30

**Electrical installation notes**

**Mains operation**

Rated mains voltage	220-240 V
With tolerances for performance +6%-8%	203-254 V
With tolerances for operation	180-264 V
Mains frequency	50/60 Hz
Power factor 100% power	>0.98
Power factor 35% power	>0.93
Earth leakage current	<0.2 mA per driver
Overvoltage protection	48 hrs at 325 Vac 2 hrs at 366 Vac 5 min. at 400 Vac

**Lamp operation**

Operation frequency (typical)	125 Hz
Ignition voltage	3-4 kV
Cable capacity	
SON-100-150W lamps (2.7 kV)	Max. 1 nF
CDO-lamps (3.3 kV)	Max. 0.5 nF
Air and creepage distance from any (metal) part that may become live, to earthed environment (class I) or test finger (class II)	>4 mm

**Notes:**

1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. For proper EMC, wiring inside luminaire should be as straight and as short as possible; mains wires should not run parallel to lamp wires.
3. Driver should be mounted in luminaire >min IP 23.
4. Thermo-protected circuit incorporates self-resetting facility; ignition attempts stop after seven minutes; mains supply must be switched off and on to reset driver.
5. Insulation resistance test: 500 Vdc from Line/Neutral to Earth (not between Line and Neutral). Ensure that the Neutral is reconnected again after abovementioned test is carried out and before the installation is put into operation.

**Control characteristics**

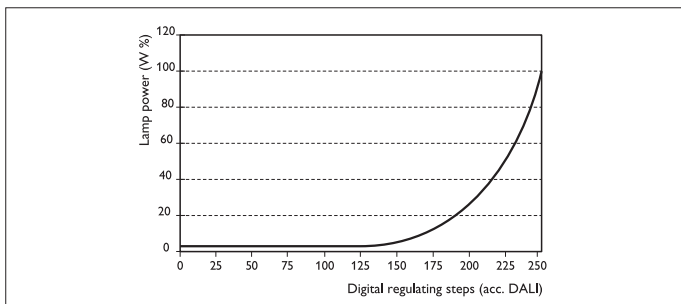
Control input	DALI
Input is protected against mains voltage connection	
Dimming fading rates are implemented to guarantee optimal lamp	
Behaviour for SON Lamps:	
Run up time before dimming*	5 minutes
Fade down time** (100%-20%)	< 1.5 minutes
Fade up time** (20%-100%)	< 1 minute
Power indication	35 - 100%
Corresponding light level (see graph)	20% - 100%
Behaviour for CDO Lamps:	
Run up time before dimming*	10 minutes
Fade down time** (100%-60%)	< 1.5 minutes
Fade up time** (60%-100%)	< 1 minute
Power indication	60 - 100%
Regulating light level (see graph)	50% - 100%

\* EMC attention should be given with cable > 3 mtr.  
 \*\* Run-up time, and fading down/up rates are determined to guarantee reliable lamp operations.

**Inrush current**

Conversion table for max. quantities of drivers on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of drivers
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%



HID-DV DALI

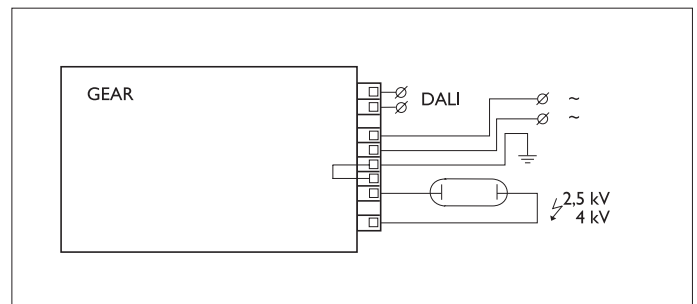
Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm<sup>2</sup> and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of drivers can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of drivers is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of drivers is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of drivers by 20%.
6. The maximum number of drivers which can be connected to one Residual Current Detector of 30 mA is 30.

**Mechanical installation notes**

Wire cross-section:

On the mains side	0.75...2.5 mm <sup>2</sup>	advised rating: U <sub>o</sub> /U = 250/250V
On the lamp side	0.75...2.5 mm <sup>2</sup>	advised rating: U <sub>o</sub> /U = 250/250V
Strip length	6 mm	



HID-DV DALI





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EXC

### Product Description

- One-piece, compact, lightweight high-frequency electronic driver

### Features and Benefits

- Replaces electromagnetic gear, ignitor and capacitor
- Provides equivalent light output at up to 36% lower energy consumption
- One multi-voltage unit gives constant light output at mains voltages between approximately 200 and 255 V
- Slim cross-section and light weight facilitate luminaire design
- Single-insert contacts
- Simple installation and cabling

### Applications

- Public lighting outdoor, e.g. road, residential, tunnels
- Climatic suitability: restricted to built-in situations where relative humidity is limited (luminaire classification min. IP 54)

### Quality

Philips Quality assures optimum quality regarding:

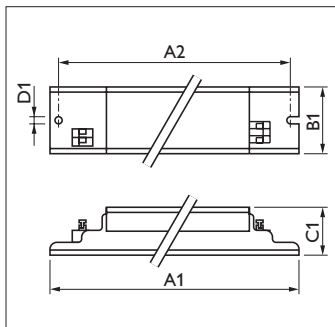
- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/driver performance is maintained.
- European standards: Philips HID electronic drivers comply with all relevant international rules and regulations.

### Compliances and approvals

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

### Recommended lamp page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



EXC

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
EXC 35/36/55/66 SOX(-E)	280.0	265.0	39.0	28.0	4.2
EXC 91 SOX-E	335.0	325.0	39.0	28.0	4.2

**Inrush current**

Type	Inrush current Peak (A)	Inrush current Width (ms)
EXC 35/36 SOX(-E)	30	0.15
EXC 55/66 SOX(-E)	40	0.15
EXC 91 SOX-E	50	0.22

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Cable-Cap outputwires mutual (nF)
EXC 35 SOX 220-240V 50/60Hz	1	35	4	50/60	220-240	65	65	50	1
EXC 36 SOX-E 220-240V 50/60Hz	1	36	4	50/60	220-240	65	65	50	0.5
EXC 55 SOX 220-240V 50/60Hz	1	55	4	50/60	220-240	65	65	50	2
EXC 66 SOX-E 220-240V 50/60Hz	1	66	5	50/60	220-240	65	65	50	2
EXC 91 SOX-E 220-240V 50/60Hz	1	91	7	50/60	220-240	65	65	50	1

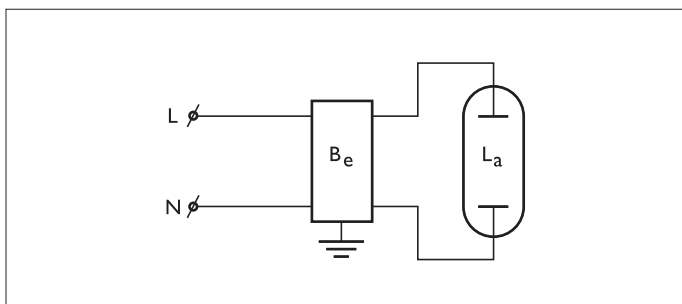
**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 871 1500
EXC 35 SOX 220-240V 50/60Hz	0.266 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062390	062383 30
EXC 36 SOX-E 220-240V 50/60Hz	0.267 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062413	062406 30
EXC 55 SOX 220-240V 50/60Hz	0.289 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062437	062420 30
EXC 66 SOX-E 220-240V 50/60Hz	0.289 kg	25	31.3 cm x 22.5 cm x 21.4 cm	8711500062451	062444 30
EXC 91 SOX-E 220-240V 50/60Hz	0.333 kg	10	37.6 cm x 20.6 cm x 7.6 cm	8711500741097	741080 30

**Electrical installation notes**

Note:

In order to reset stop circuit of electronic driver, mains supply must be switched off for ten seconds when replacing defective lamp.



EXC



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HID-PVXT45

### Product Description

- Compact, robust, outdoor, one-piece, electronic gears for CosmoPolis White (CPO-TW) lamps

### Features and Benefits

- Single easily-installed, self-contained component
- High system efficiency – up to 92%
- Xtreme long lifetime gear: 60,000 hours 95% survival rate (or 80,000 hours with 90% survival rate) at nominal temperature
- Peak voltage protection safeguards the lamp; surge protection safeguards the gear (differential mode/common mode 2kV/4kV)
- Full lightning protection (10kV L/N to GND)
- Guaranteed system performance at all mains voltages from 198-254 V
- Double insulated so easy to use in Class 2 applications
- Stable, flicker-free lamp operation
- Self-stopping facility prevents cycling of old lamps
- Size suitable for both luminaire and pole mounting and also for retrofit installations (same footprint as electromagnetic systems)
- Cage clamp terminal connections with pushbutton release
- Compact and environment-friendly system

### Applications

- Road and street lighting
- Residential lighting
- City beautification
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

### Environment

- Philips Green product with high efficacy minimises environmental impact and CO<sub>2</sub> emission
- RoHS compliant
- ENEC or KEMA/VDE approved

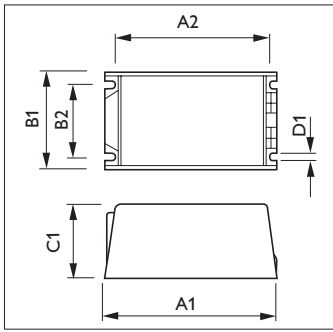
### Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations

### Recommended lamp page 3.170

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HID-PV Xt

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-PrimaVision Xtreme 45/60 /S CPO-TW	135.0	125.7	65.0	46.8	65.0	4.8
HID-PrimaVision Xtreme 90/140 /S CPO-TW	150.0	140.7	65.0	46.8	65.0	4.8

**Inrush current**

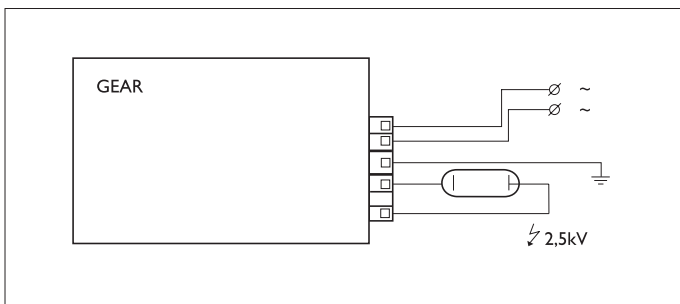
Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-PrimaVision Xtreme 45/60 /S CPO-TW 220-240V 50/60Hz	11	37	0.29
HID-PrimaVision Xtreme 90/140 /S CPO-TW 220-240V 50/60Hz	5	56	0.42

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-PXt 45 /S CPO-TW 220-240V	1	45	6.5	50/60	220-240	80	90	50	2.4	1000
HID-PXt 60 /S CPO-TW 220-240V	1	60	7.3	50/60	220-240	80	90	50	2.4	1000
HID-PXt 90 /S CPO-TW 220-240V	1	90	9.0	50/60	220-240	80	90	50	2.1	1000
HID-PXt 140 /S CPO-TW 220-240V	1	140	12.7	50/60	220-240	80	90	50	2.1	1000

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-PXt 45 /S CPO-TW 220-240V 50/60Hz	0.95 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915078	915061 30
HID-PXt 60 /S CPO-TW 220-240V 50/60Hz	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500914910	914903 30
HID-PXt 90 /S CPO-TW 220-240V 50/60Hz	0.95 kg	12	27.5 cm x 17.1 cm x 22.8 cm	8711500914934	914927 30
HID-PXt 140 /S CPO-TW 220-240V 50/60Hz	0.95 kg	12	27.5 cm x 17.1 cm x 22.8 cm	-	-



HID-PV Xt



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HID-DV

### Product Description

- Stand-alone dimming, lightweight, one-piece electronic gear for CosmoWhite lamps

### Features and Benefits

- Step dimming from 100% down to 60% within three pre-programmed cycles - 6, 8 and 10 hours – at start times determined in the dimming cycle
- No external control components nor additional signal wiring required
- Single easily-installed, self-contained component
- High system efficiency – up to 92%
- Xtreme long lifetime gear: 60,000 hours 95% survival rate (or 80,000 hours with 90% survival rate) at nominal temperature
- Peak voltage protection safeguards the lamp; surge protection safeguards the gear (differential mode/common mode 2kV/4kV)
- Full lightning protection (10kV L/N to GND)
- Guaranteed system performance at all mains voltages from 198-254 V
- Double insulated so easy to use in Class 2 applications
- Stable, flicker-free lamp operation
- Self-stopping facility prevents cycling of old lamps
- Size suitable for both luminaire and pole mounting and also for retrofit installations (same footprint as electromagnetic systems)
- Cage clamp terminal connections with pushbutton release
- Compact and environment-friendly system

### Applications

- Road and street lighting
- Residential lighting
- City beautification
- Indoor and outdoor applications, recommended outdoor luminaire classification > IP 23

### Environment

- Philips Green product with high efficacy minimises environmental impact and CO<sub>2</sub> emission
- RoHS compliant
- ENEC or KEMA/VDE approved

### Quality

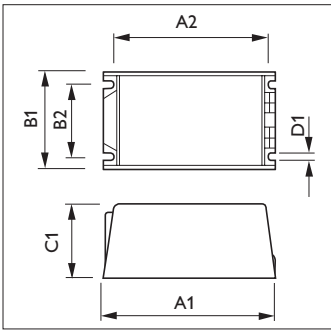
Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations

**Recommended lamp page 3.170**

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HID-DV

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
HID-DLS Xt 60 CPO-TW	135.0	120.9	65.0	46.8	65.0	4.8

**Inrush current**

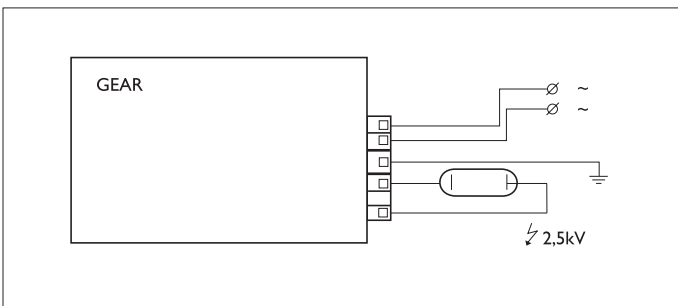
Type	Maximum gear number on MCB (x)	Inrush current Peak (A)	Inrush current Width (ms)
HID-DLS Xt 60 CPO-TW	11	37	0.29

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Cable-Cap outputwires mutual (pF)
HID-DLS	1	60	7.3	50/60	220-240	70	70	50	2.4	1000

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-DLS-6 Xt 60 /S CPO-TW 220-240V	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915092	915085 30
HID-DLS-8 Xt 60 /S CPO-TW 220-240V	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915115	915108 30
HID-DLS-10 Xt 60 /S CPO-TW 220-240V	0.85 kg	12	40.1 cm x 15.6 cm x 16.3 cm	8711500915153	915122 30



HID-DV



HID-DVC

### Product Description

- HID-DynaVision Controller for combination with dimming gear (BSH), electromagnetic gear (BSN) and ignitor

### Features and Benefits

- Offers the possibility of creating 250W and 400W SON dimming systems with electromagnetic gear
- Can be added on to existing luminaires, practically no cable-length restrictions
- Light level can be continuously dimmed from 100 to 20% (approx. 35% system power)
- 1-10V input for dim-control signal
- Constant lamp power for mains overvoltage, power control at all dimming levels
- HID-DV Controller in Aluminium house, M8 stud for mounting, screw connectors for wiring
- Electromagnetic gears equipped with screw terminal blocks

### Applications

- Similar to those of the related lamps (SON), for continuous dimming in telecontrol or telemanagement system
- Can also be used as two-level dimming system with switched line control when used in combination with an SDU
- Climatic suitability: use in luminaries or poles under normal humid conditions (IP > 23)

### Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations.

### Compliances and approvals

HID-em	
Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001
HID-ignitors	
Safety	EN 61347-2-1
Performance	EN 60927
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC

CE-marking	
Environmental standard	ISO 14001
HID-electronics	
Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547

Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

**Recommended lamp page 3.170**

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BSH

**Inrush current**

(L36)

Type	Inrush current Peak (A)	Inrush current Width (ms)
HID-DVC 250/400 SON 220-240V 50/60Hz	3.6	0.10
BSH 250/400 L36 220/240V 50/60Hz	-	-

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-case life (°C)	T-case maximum (°C)	T-ambient
HID-DVC 250 SON 220-240V 50/60Hz	1	250	40	50/60	220-240	85	85	50
HID-DVC 400 SON 220-240V 50/60Hz	1	400	50	50/60	220-240	85	85	50
BSH 250/400 L36 220/240V 50/60Hz	1	250/400	11.0-20.0	50/60	220/240	-	-	-

**Electrical data**

Type	T-winding	Delta-T normal conditions (°C)
HID-DVC 250 SON 220-240V 50/60Hz	-	-
HID-DVC 400 SON 220-240V 50/60Hz	-	-
BSH 250/400 L36 220/240V 50/60Hz	130	75

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
HID-DVC 250 SON 220-240V 50/60Hz	0.363 kg	6	15.5 cm x 13.7 cm x 8.5 cm	8711500748553	748546 30
BSH 250/400 L36 220/240V 50/60Hz HD1-118	1.265 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500539854	539847 31
HID-DVC 400 SON 220-240V 50/60Hz	0.363 kg	6	15.5 cm x 13.7 cm x 8.5 cm	8711500748652	748645 30

**Electrical installation notes**

Mains operation	
Rated mains voltage	220 - 240 V
With tolerances for performance	203 - 254 V
With tolerances for operation	180 - 264 V
Mains frequency	50/60 Hz
Operation frequency (typical)	50 Hz
Power factor* (nominal power)	> 0.92
Power factor* (35% power)	> 0.7
*With rated PF capacitor value	
Earth leakage current (per gear)	< 0.5 mA
Overvoltage protection	48 hrs at 325 Vac
	2 hrs at 366 Vac
	5 min at 400 Vac
Cable length to normal gear	No limit.

Notes:

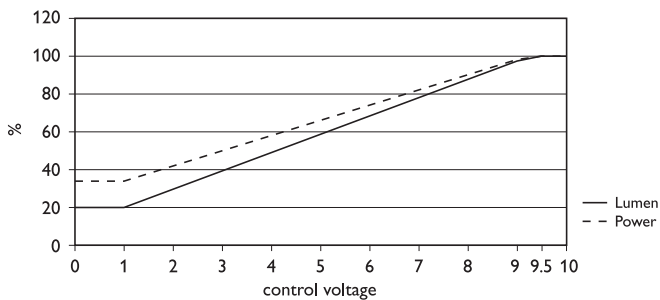
1. With three-phase mains supply, neutral should never be disconnected; otherwise circuitry could be damaged.
2. Gear must be earthed.
3. Power factor correction capacitor should be connected directly on the mains; when installing this device in front of existing gear, the original capacitor has to be removed.

**Control characteristics**

Control input	
Control voltage input	1-10 V
Protected against mains voltage connection	Yes
Control resistance (to be connected on 1-10V input)	0 - 100 kΩ
Regulating light level SON 250/400 W	20 - 100%
After ignition or lamp restrike allways 100% level for 5 min	
Gear dimming fading rates are:	
SON 250/400 W	
Fade up (35-100%)	< 1.0 min
Fade down (100-35%)	< 1.5 min

**Mechanical installation notes**

Wire cross-section:	
On the mains side	0.75...2.5 mm <sup>2</sup>
On the lamp side	0.75...2.5 mm <sup>2</sup>
Strip length	6 mm



HID-DVC



**Product Description**

- Interface for two-level control of electronic gears with 1-10V dim input with 230V switched line signal

**Features and Benefits**

In combination with

- HF-Regulator for Fluorescent lamps: dimming from 100 to 50%
- In combination with HID-DynaVision drivers for SON (SDU-01/H) or CDO (SDU-01/L) lamps: dimming from 100 to 50%
- When SDU is connected the dim-input of the electronic gear is not galvanically isolated anymore!
- SDU in synthetic 'standard' ignitor house with M8 stud, screw connectors for wiring



**Applications**

- Public lighting where two-level dimming is required combined with the advantages of electronic operation

**Quality**

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electronic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electronic gears comply with all relevant international rules and regulations.

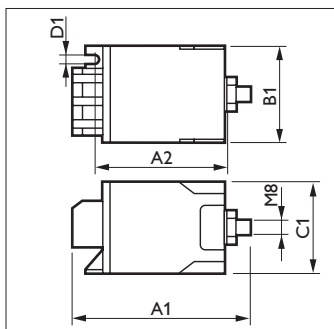
**Compliances and approvals**

Safety	EN 61347-2-1/2-3/2-9
Performance	EN 60927 / EN 60929
RFI	EN 55015 / EN 55022
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	KEMA/VDE
CE-marking	
Environmental standard	ISO 14001

**Recommended lamp page 3.170**

[www.philips.com/OEM](http://www.philips.com/OEM)

SDU



SDU-01/H /L

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
SDU-01/H /L 220-240V 50/60Hz	89.0	70.0	41.0	38.0	4.3

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Line Frequency (Hz)	Line Voltage (V)	T-case maximum (°C)	T-ambient
SDU-01/H/L	1-4	13-600	50/60	220-240	85	80

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8727900
SDU-01/H	0.043 kg	20	20 cm x 17.5 cm x 11 cm	8711500747297	800845 00
SDU-01/L	0.043 kg	20	20 cm x 17.5 cm x 11 cm	8711500747273	800869 00

**Electrical installation notes**

Mains operation

With tolerances for performance 220 - 240 V  
-8%...+6%

Control voltage 198 - 260 V

Max input current 160 mA

Operation frequency

50/60 Hz

**Mechanical installation notes**

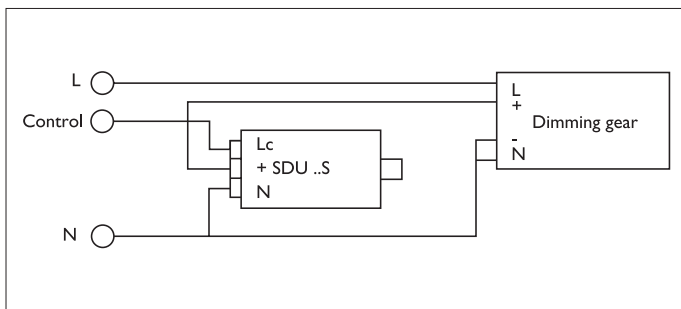
Wire cross-section:

On the mains side

0.75...2.5 mm<sup>2</sup>

Strip length

6 mm



SDU



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BSN

### Product Description

- Impregnated electromagnetic copper/iron gears for use with an external semi parallel ignitor for CDM, CDO, MH, HPI (Plus) and SON lamps

### Features and Benefits

- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Control gear can be installed remotely; substantial distance allowed between gear/ignitor & lamp
- Equipped as standard with screw terminal blocks; insert contact on request
- Earthing-while-mounting facility
- Gear can also be used in combination with series (superimposed) ignitor
- Versions with ThermoSwitch available for protection against end- of -lamp- life phenomena (TS mandatory for operation of CDM lamps).

### Applications

- Ideal for the following applications:
  - Recreational sports lighting, indoor and outdoor
  - Road and residential lighting
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites
  - Canopy lighting, e.g. petrol stations
  - Horticulture
- Climatic suitability: restricted to built-in situations where relative humidity is limited

### Quality

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- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

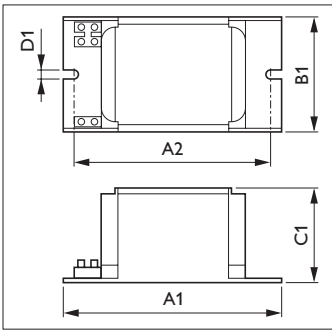
### Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

**Recommended lamp page 3.170**

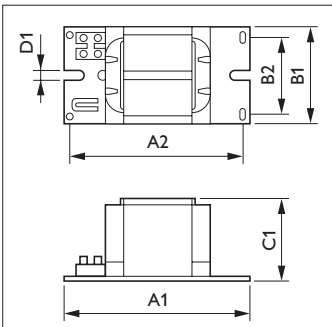
**[www.philips.com/OEM](http://www.philips.com/OEM)**





BMH/BSN

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BMH 35/70	118.0	94.0	61.0	52.0	6.2
BSN 50	118.0	94.0	61.0	52.0	6.2
BSN 100	123.0	98.0	61.0	52.0	6.2
BSN 150	134.0	113.0	76.0	65.0	6.2
BSN 250	160.0	139.0	76.0	65.0	6.2



BSN

Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
BSN 400/600	166.0	145.0	97.0	78.5	83.0	6.5



BMH

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BMH35L407ITS	1	35	8.1/8.3	50	230/240	130	65/70	0.24
BMH70L407ITS	1	70	12.7/13.9	50	230/240	130	65/70	0.45
BSN50L407ITS	1	50	11.3 / 11.9	50	230/240	130	70/75	0.3
BSN70L407ITS	1	70	12.8 / 13.2	50	230/240	130	65	0.6
BSN100L302I	1	100	14.9	50	230	130	75	0.6
BSN100L407ITS	1	100	13.5 / 14.1	50	230/240	130	70/75	0.6
BSN150L407I	1	150	16.3	50	230/240	130	70	0.85
BSN150L407ITS	1	150	16.3	50	230/240	130	70	0.85
BSN250L407I	1	250	25.2 / 26.3	50	230/240	130	70	1.31
BSN250L407ITS	1	250	25.2 / 26.3	50	230/240	130	70	1.31
BSN400L302I	1	400	29.0	50	230	130	70	2.2
BSN400L407ITS	1	400	30.0	50	230/240	130	75	2.2
BSN600L407ITS	1	600	34.0	50	230/240	130	75	3.1
BSN600L309ITS	1	600	37.0	50	400	130	75	1.87

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BMH35L407ITS	1.01	6	19.6 cm x 13.3 cm x 11.1 cm	8711500749208	749192 30
BMH70L407ITS	1.1	6	19.6 cm x 13.3 cm x 11.1 cm	8711500061355	739704 30
BSN50L407ITS	0.87	6	19.6 cm x 13.3 cm x 11.1 cm	8711500536129	536129 30
BSN70L407ITS	1.2	6	19.6 cm x 13.3 cm x 11.1 cm	8711500535832	535832 30
BSN100L302I	1.1	6	19.6 cm x 13.8 cm x 11.1 cm	8711500739865	739865 31
BSN100L407ITS	1.22	6	19.6 cm x 13.8 cm x 11.1 cm	8711500747754	747747 30
BSN150L407I	1.82	6	24.2 cm x 14.9 cm x 13.7 cm	8711500738479	738479 30
BSN150L407ITS	1.82	6	24.2 cm x 14.9 cm x 13.7 cm	8711500739094	739087 30
BSN250L407I	2.9	6	24.2 cm x 17.5 cm x 13.7 cm	8711500738516	738516 30
BSN250L407ITS	2.9	6	24.2 cm x 17.5 cm x 13.7 cm	8711500739179	739162 30
BSN400L302I	4.3	2	21 cm x 17.9 cm x 9 cm	8711500746221	746221 30
BSN400L407ITS	4.3	2	21 cm x 17.9 cm x 9 cm	8711500934406	538635 31
BSN600L407ITS	5.2	2	21 cm x 17.9 cm x 9 cm	8711500538819	538802 30
BSN600L309ITS	5.2	2	21 cm x 17.9 cm x 9 cm	8711500748362	748355 30

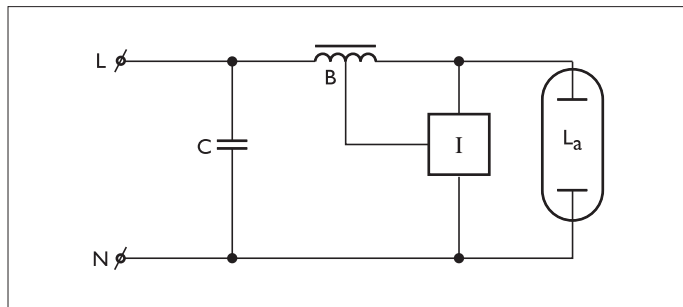
**Electrical installation notes**

Mains operation

- With tolerances for performance -8% / +6%
- With tolerances for operation -10% / +10%
- Operation frequency (typical) 50 Hz
- Power factor with specified capacitor (minimum) 0.85

**Mechanical installation notes**

- Wire cross-section: 0.75-2.5 mm<sup>2</sup>
- On the mains side
- Strip length 6 mm



BMH/BSN





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BSN

### Product Description

- Impregnated electromagnetic copper/iron double-wattage gears for use with an external series (superimposed) ignitor for CDO, MH, HPI (Plus) and SON lamps

### Features and Benefits

- Double wattage & double voltage gears
- Possibility of step-dimming with an external controller
- All gears are equipped with ThermoSwitch protection against end-of-lamp-life phenomena
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks; insert contact on request
- Earthing-while-mounting facility

### Applications

- Ideal for the following applications:
  - Road and residential lighting
  - Recreational sports lighting, indoor and outdoor
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites, city centres, shopping centres, pedestrian areas
  - Canopy lighting, e.g. petrol stations
- Climatic suitability: restricted to built-in situations where relative humidity is limited

### Quality

Philips Quality assures optimum quality regarding:

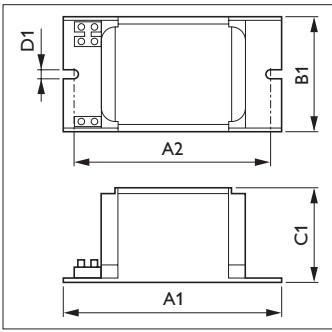
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

### Compliances and approvals

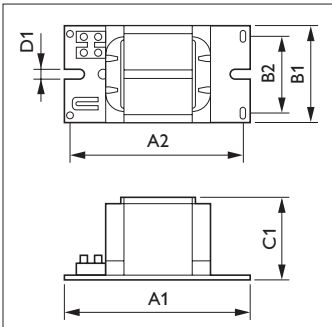
Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

### Recommended lamp page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BSN 50/70	118.0	94.0	61.0	52.0	6.2
BSN 70/100	123.0	98.0	61.0	52.0	6.2
BSN 100/150	134.0	113.0	76.0	65.0	6.2



Type	A1Nom	A2Nom	B1Nom	B2Nom	C1Nom	D1Nom
BSN 150/250 & 250/400	166.0	145.0	97.0	78.5	83.0	6.5

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BSN 50/70 L407-TS 230/240V 50Hz	1	50/70	10.3/11.6	50	230/240	130	60/70	0.30/0.45
BSN 70/100 L407-TS 230/240V 50Hz	1	70/100	11.2/15.3	50	230/240	130	60/75	0.45/0.6
BSN 100/150 L407-TS 230/240V 50Hz	1	100/150	10.0/17.7	50	230/240	130	40/65	0.6/0.85
BSN 150/250 L407-TS 230/240V 50Hz	1	150/250	13.2/27.1	50	230/240	130	40/80	0.85/1.4
BSN 250/400 L407-TS 230/240V 50Hz	1	250/400	18.7/32.4	50	230/240	130	40/60	1.40/2.20

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSN 50/70 L407-TS 230/240V 50Hz	1.2 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500539410	539403 31
BSN 70/100 L407-TS 230/240V 50Hz	1.31 kg	6	19.6 cm x 13.8 cm x 11.1 cm	8711500060501	060495 30
BSN 100/150 L407-TS 230/240V 50Hz	2.17 kg	6	24.2 cm x 14.9 cm x 13.7 cm	8711500063922	063915 30
BSN 150/250 L407-TS 230/240V 50Hz	3.365 kg	2	21 cm x 17.9 cm x 9 cm	8711500736369	736352 30
BSN 250/400 L407-TS 230/240V 50Hz	5.36 kg	2	21 cm x 17.9 cm x 9 cm	8711500060440	060433 30

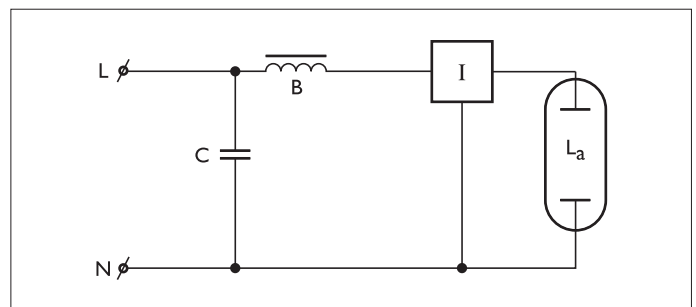
**Electrical installation notes**

Mains operation

- With tolerances for performance -8% / +6%
- With tolerances for operation -10% / +10%
- Operation frequency (typical) 50 Hz
- Power factor with specified capacitor (minimum) 0.85

**Mechanical installation notes**

- Wire cross-section: 0.75-2.5 mm<sup>2</sup>
- On the mains side
- Strip length 6 mm



BSN



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BSN

### Product Description

- Encapsulated electromagnetic copper/iron gears for use with an external semi-parallel ignitor for CDM, CDO, MH, HPI (Plus) and SON lamps (no ignitor needed for SON-I lamps)

### Features and Benefits

- Outstanding product life
- Excellent resistance to chemical attack, humid conditions and high environmental stress crack resistance
- Separate earth terminal
- All gears are equipped with ThermoSwitch protection against end-of-lamp-life phenomena
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks
- Gear can also be used in combination with a series (superimposed) ignitor
- Gears for alternative mains voltages/frequencies on request

### Applications

- Ideal for the following applications:
  - Outdoor: tunnels and parking areas
  - Outside luminaire: in the pole or electrical cabinet
  - Road and residential lighting
  - Area lighting, e.g. harbors, building sites, city centres, shopping centres, pedestrian areas
- Climatic suitability: use in luminaires under normal humidity conditions (not drip-proof)

### Quality

Philips Quality assures optimum quality regarding:

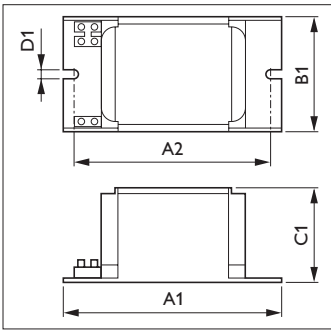
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

### Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

### Recommended ballast page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



BSN

Type	AINom	A2Nom	BINom	CINom	DINom
BSN 50/70	118.0	103.0	65.0	53.0	6.2
BSN 100	123.0	108.0	65.0	53.0	6.2
BSN 150 L33	126.0	107.5	81.0	66.0	6.2
BSN 150 L34	134.0	115.5	81.0	66.0	6.2
BSN 250 L33	151.0	132.5	81.0	66.0	6.2
BSN 250 L34	160.0	141.5	81.0	66.0	6.2
BSN 400	166.0	147.5	102.0	84.0	6.2

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BSN 50 L33-TS 230V 50Hz	1	50	10.9	50	230	130	60	0.30
BSN 50 L34 240V 50Hz	1	50	10.0	50	240	130	65	0.30
BSN 70 L33-TS 230V 50Hz	1	70	11.0	50	230	130	55	0.45
BSN 70 L34-TS 240V 50Hz	1	70	11.5	50	240	130	55	0.45
BSN 100 L33-TS 230V 50Hz	1	100	13.6	50	230	130	70	0.60
BSN 100 L34-TS 240V 50Hz	1	100	13.8	50	240	130	75	0.60
BSN 150 L33-TS 230V 50Hz	1	150	19.0	50	230	130	75	0.85
BSN 150 L34-TS 240V 50Hz	1	150	20.0	50	240	130	70	0.85
BSN 250 L33-TS 230V 50Hz	1	250	29.0	50	230	130	80	1.40
BSN 250 L34-TS 240V 50Hz	1	250	27.0	50	240	130	80	1.40
BSN 400 L33-TS 230V 50Hz	1	400	28.0	50	230	130	70	2.20
BSN 400 L34-TS 240V 50Hz	1	400	32.0	50	240	130	70	2.20

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSN 50 L33-TS 230V 50Hz	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500748232	748225 30
BSN 50 L34 240V 50Hz	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500062093	915399 31
BSN 70 L33-TS 230V 50Hz	1.28 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500062154	059680 31
BSN 70 L34-TS 240V 50Hz	1.28 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500062161	059703 31
BSN 100 L33-TS 230V 50Hz	1.3 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061614	059727 31
BSN 100 L34-TS 240V 50Hz	1.3 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061621	059741 31
BSN 150 L33-TS 230V 50Hz	1.8 kg	6	25.3 cm x 14.2 cm x 13.9 cm	8711500059611	059604 30
BSN 150 L34-TS 240V 50Hz	1.8 kg	6	25.3 cm x 15 cm x 13.9 cm	8711500059635	059628 30
BSN 250 L33-TS 230V 50Hz	2.7 kg	6	25.3 cm x 16.7 cm x 13.9 cm	8711500059659	059642 30
BSN 250 L34-TS 240V 50Hz	3.05 kg	6	25.3 cm x 17.6 cm x 13.9 cm	8711500059673	059666 30
BSN 400 L33-TS 230V 50Hz	4.55 kg	4	21.6 cm x 18.2 cm x 17.7 cm	8711500059772	059765 30
BSN 400 L34-TS 240V 50Hz	4.55 kg	4	21.6 cm x 18.2 cm x 17.7 cm	8711500059796	059789 30

**Electrical installation notes**

Mains operation

With tolerances for performance -8% / +6%

With tolerances for operation -10% / +10%

Operation frequency (typical) 50 Hz

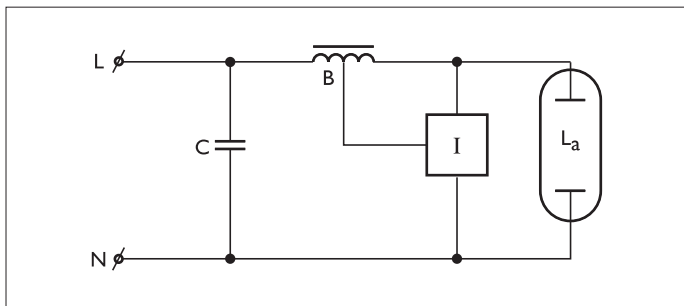
Power factor with specified capacitor (minimum) 0.85

**Mechanical installation notes**

Wire cross-section:

On the mains side 0.75-2.5 mm<sup>2</sup>

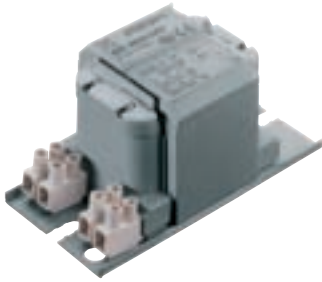
Strip length 6 mm



BSN







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BHL

### Product Description

- Impregnated electromagnetic copper/iron gears for HPL and HPI (Plus) lamps

### Features and Benefits

- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks; insert contacts on request
- Earthing-while-mounting facility
- Simple installation and cabling
- ThermoSwitch added for maximum safety
- Gears for alternative mains voltages/frequencies on request

### Applications

- Ideal for the following applications:
  - High-bay lighting, e.g. industrial workshops, exhibition halls, hypermarkets, shopping malls, DIY stores, churches, airports, railway stations
  - Road and residential lighting
  - Recreational sports lighting, indoor and outdoor
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites
  - Canopy lighting, e.g. petrol stations
- Climatic suitability: restricted to built-in situations where relative humidity is limited

### Quality

Philips Quality assures optimum quality regarding:

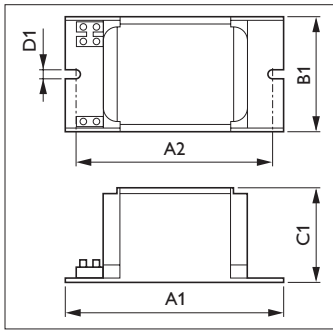
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

### Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

### Recommended lamp page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



BHL

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BHL 50	117.0	94.0	61.0	52.0	6.2
BHL 80	117.0	94.0	61.0	52.0	6.2
BHL 125 L202/L307	117.0	94.0	61.0	52.0	6.2
BHL 250 L200/L202	126.0	105.0	76.0	65.0	6.2
BHL 250 L307	134.0	112.0	76.0	65.0	6.2
BHL 400 L200/L202	150.0	130.0	76.0	65.0	6.2
BHL 400 L307	160.0	139.0	76.0	65.0	6.2

### Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BHL50L307	1	50	8.7	50	230/240	130	55	0.30
BHL80L307	1	80	11.6	50	230/240	130	75	0.45
BHL125L202	1	125	14.0	50	230	130	85	0.70
BHL125L307	1	125	14.0	50	230/240	130	85	0.70
BHL250L200	1	250	17.2	50	220	130	70	1.35
BHL250L202	1	250	17.9	50	230	130	70	1.35
BHL250L307	1	250	18.5	50	230/240	130	70	1.35
BHL400L200	1	400	20.4	50	220	130	65	2.15
BHL400L202	1	400	21.5	50	230	130	65	2.15
BHL400L307	1	400	21.4	50	230/240	130	70	2.15

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BHL50L307	0.86 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060891	919076 30
BHL80L307	0.87 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500061348	919083 30
BHL125L202	1.05 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060938	919434 31
BHL125L307	1.05 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500060921	919090 31
BHL250L200	1.85 kg	6	24.2 cm x 14.1 cm x 13.7 cm	8711500737441	737434 30
BHL250L202	1.85 kg	6	24.2 cm x 14.1 cm x 13.7 cm	8711500738172	738165 30
BHL250L307	1.85 kg	6	24.2 cm x 14.1 cm x 13.7 cm	8711500737236	737229 30
BHL400L200	2.95 kg	6	24.2 cm x 14.1 cm x 13.7 cm	8711500737502	737496 30
BHL400L202	2.95 kg	6	24.2 cm x 16.6 cm x 13.7 cm	8711500739216	739209 30
BHL400L307	2.95 kg	6	24.2 cm x 16.6 cm x 13.7 cm	8711500737267	737250 30

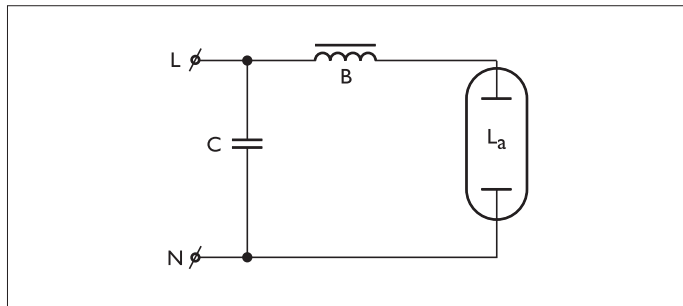
**Electrical installation notes**

**Mains operation**

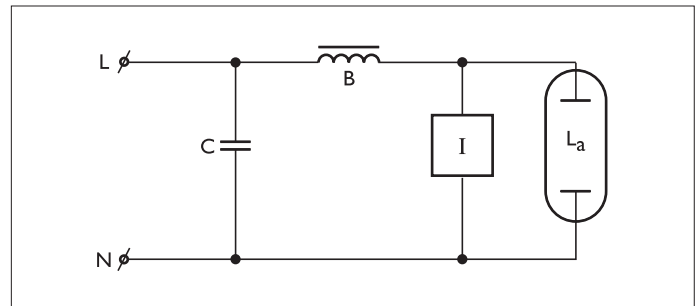
- With tolerances for performance -8% / +6%
- With tolerances for operation -10% / +10%
- Operation frequency (typical) 50 Hz
- Power factor with specified capacitor (minimum) 0.85

**Mechanical installation notes**

- Wire cross-section: 0.75-2.5 mm<sup>2</sup>
- On the mains side
- Strip length 6 mm



BHL 50, 50/80, 80, 80/125, 125



BHL 250/400





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BHL

### Product Description

- Encapsulated electromagnetic copper/iron gears for HPL and HPI (Plus) lamps

### Features and Benefits

- Outstanding product life
- Excellent resistance to chemical attack, humid conditions and high environmental stress crack resistance
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped as standard with screw terminal blocks
- Separate earth terminal (HID 'Heavy Duty')
- Simple installation and cabling
- Gears for alternative mains voltages/frequencies on request

### Applications

- Ideal for the following applications:
  - Recreational sports lighting, indoor and outdoor
  - Floodlighting of buildings and monuments
  - Area lighting, e.g. harbors, building sites
  - Canopy lighting, e.g. petrol stations
  - High bay lighting, e.g. industrial workshops, exhibition halls, supermarkets, shopping malls, DIY stores, churches, airports, railway stations
- Climatic suitability: use in luminaires under normal humidity conditions (not drip-proof)

### Quality

Philips Quality assures optimum quality regarding:

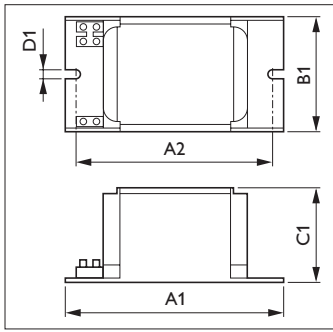
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

### Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

### Recommended lamp page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



BHL

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
BHL 50/80/125	118.0	103.0	65.0	53.0	6.2
BHL 250 L32	134.0	115.5	81.0	66.0	6.2
BHL 250 L40	126.0	107.5	81.0	66.0	6.2
BHL 400 L32	160.0	141.5	81.0	66.0	6.2
BHL 400 L40	151.0	132.5	81.0	66.0	6.2

### Electrical data

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BHL 50/80 L48 230V 50Hz	1	50/80	7.0/10.0	50	230	130	55	0.30/0.45
BHL 80 L32 240V 50Hz	1	80	10.5	50	240	130	60	0.45
BHL 80 L40 230V 50Hz	1	80	10.5	50	230	130	60	0.45
BHL 80/125 L48 230V 50Hz	1	80/125	9.6/12.2	50	230	130	75	0.45/0.70
BHL 125 L32 240V 50Hz	1	125	13.2	50	240	130	70	0.70
BHL 125 L40 230V 50Hz	1	125	12.7	50	230	130	70	0.70
BHL 250 L32 240V 50Hz	1	250	20.5	50	240	130	85	1.35
BHL 250 L40 230V 50Hz	1	250	19.5	50	230	130	85	1.35
BHL 400 L32 240V 50Hz	1	400	23.0	50	240	130	85	2.15
BHL 400 L40 230V 50Hz	1	400	22.0	50	230	130	80	2.15

### Ordering and packing data

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BHL 50/80 L48 230V 50Hz	1.25 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061768	919649 31
BHL 80 L32 240V 50Hz	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061690	919373 31
BHL 80 L40 230V 50Hz	1 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061683	919359 31
BHL 80/125 L48 230V 50Hz	1.25 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061782	919694 31
BHL 125 L32 240V 50Hz	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061720	919441 31
BHL 125 L40 230V 50Hz	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061744	915146 31
BHL 250 L32 240V 50Hz	2.1 kg	6	25.3 cm x 15 cm x 13.9 cm	8711500932709	944894 30
BHL 250 L40 230V 50Hz	1.84 kg	6	25.3 cm x 14.2 cm x 13.9 cm	8711500934604	919502 30
BHL 400 L32 240V 50Hz	3.05 kg	6	25.3 cm x 17.6 cm x 13.9 cm	8711500932440	919557 30
BHL 400 L40 230V 50Hz	2.75 kg	6	25.3 cm x 16.7 cm x 13.9 cm	8711500934703	919533 30

**Electrical installation notes**

Mains operation

With tolerances for performance -8% / +6%

With tolerances for operation -10% / +10%

Operation frequency (typical) 50 Hz

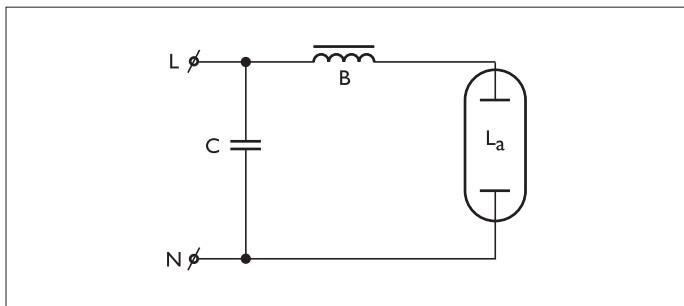
Power factor with specified capacitor (minimum) 0.85

**Mechanical installation notes**

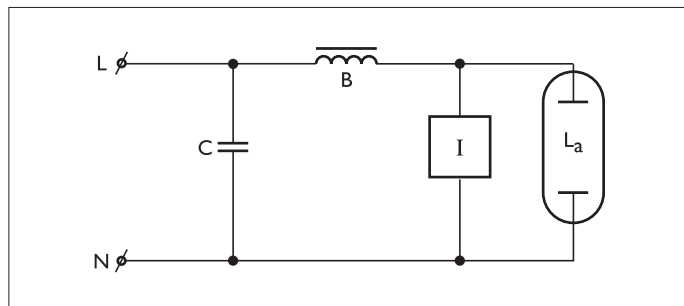
Wire cross-section:

On the mains side 0.75-2.5 mm<sup>2</sup>

Strip length 6 mm



BHL 50/80, 80, 80/125, 125



BHL 250/400



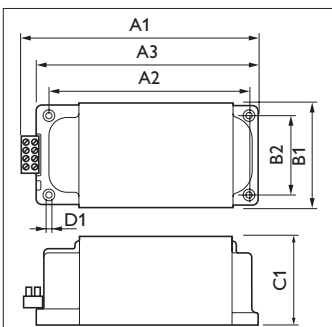




BHD

Recommended gear page 3.170

[www.philips.com/OEM](http://www.philips.com/OEM)



BHD/BMH/BML

**Product Description**

- Encapsulated gears for use with SON (T) (Plus), HPL, HPI and MH lamps with rated wattages of 1000W and above

**Features and Benefits**

- Class I rated (i.e. with earthing facility)
- Compact dimensions and minimal watt losses (typically 5% of system power), thanks to orthocyclic winding process
- Both single-phase (220-230-240V) and 3-phase (380-400-415V) models
- Equipped as standard with screw terminal blocks
- Encapsulated design for excellent protection against moisture ingress
- Narrow cross-section is ideal for pole-mounting situations
- Gears for alternative mains voltages/frequencies on request

**Applications**

- Ideal for the following applications:
  - Floodlighting of large buildings, facades and monuments
  - Sports lighting, e.g. stadiums, arenas
  - Area lighting, e.g. harbors, building sites, industrial complexes

**Quality**

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

**Compliances and approvals**

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

Type	A1Nom	A2Nom	A3Nom	BINom	B2Nom	CINom	DINom
BHD 2000 L76/L77	317.0	282.0	306.0	117.0	88.0	102.0	6.5
BMH 1800 L43/L78 & 2000 L76	317.0	282.0	306.0	117.0	88.0	102.0	6.5
BHL 1000 L02/L78	207.0	172.0	196.0	117.0	88.0	102.0	6.5
BHL 2000 L50	257.0	222.0	246.0	117.0	88.0	102.0	6.5
BHL 2000 L76/L78	317.0	282.0	306.0	117.0	88.0	102.0	6.5
BSN 1000 L02/L43/L78	257.0	222.0	246.0	117.0	88.0	102.0	6.5

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BHL 1000 L02 220V 50Hz	1	1000	40.0	50	220	130	70	5.60
BHL 1000 L78 230/240V 50Hz	1	1000	35.0	50	230/240	130	70	5.40
BSN 1000 L02 220V 50Hz	1	1000	56.0	50	220	130	70	5.70
BSN 1000 L43 220V 60Hz	1	1000	56.0	60	220	130	70	5.50
BSN 1000 L78 230/240V 50Hz	1	1000	54.0	50	230/240	130	70	5.50
BMH 1800 L43 220V 60Hz	1	1800	80.0	60	220	130	80	9.80
BMH 1800 L78 230/240V 50Hz	1	1800	86.0	50	230/240	130	80	9.80
BHD 2000 L76 380/400/415V 50Hz	1	2000	80.0	50	380-415	130	65	6.60
BHD 2000 L77 400/415/430V 50Hz	1	2000	85.0	50	400-430	130	75	6.60
BHL 2000 L50 380/400V 50Hz	1	2000	48.0	50	380/400	130	70	6.30
BHL 2000 L76 380/400/415V 50Hz	1	2000	77.0	50	380-415	130	70	6.30
BHL 2000 L78 230/240V 50Hz	1	2000	92.0	50	230/240	130	70	10.60
BMH 2000 L76 380/400/415V 50Hz	1	2000	72.0	50	380-415	130	65	6.60

**Ordering and packing data**

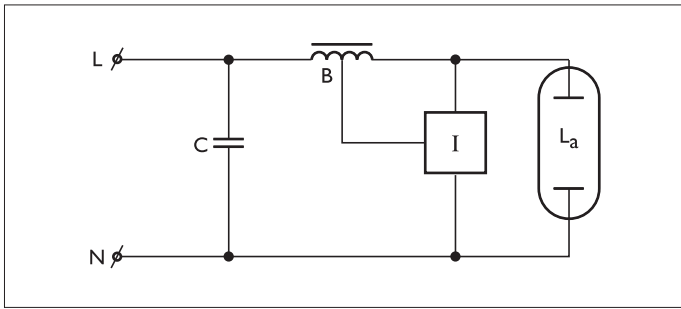
Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BHL 1000 L02 220V 50Hz	8.5 kg	1	22 cm x 13 cm x 10.5 cm	8711500062314	062314 00
BHL 1000 L78 230/240V 50Hz	8.5 kg	1	22 cm x 13 cm x 10.5 cm	8711500062376	062376 00
BSN 1000 L02 220V 50Hz	12.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062284	062284 00
BSN 1000 L43 220V 60Hz	12.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062277	062277 00
BSN 1000 L78 230/240V 50Hz	12.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062369	062369 00
BMH 1800 L43 220V 60Hz	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500062352	062352 00
BMH 1800 L78 230/240V 50Hz	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500059901	059901 00
BHD 2000 L76 380/400/415V 50Hz	17.3 kg	1	33 cm x 16 cm x 18.1 cm	8711500742766	742766 00
BHD 2000 L77 400/415/430V 50Hz	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500538178	538178 00
BHL 2000 L50 380/400V 50Hz	8.5 kg	1	27 cm x 13 cm x 10.5 cm	8711500062291	062291 00
BHL 2000 L76 380/400/415V 50Hz	15.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500063847	063847 00
BHL 2000 L78 230/240V 50Hz	16.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500063854	063854 00
BMH 2000 L76 380/400/415V 50Hz	17.5 kg	1	33 cm x 16 cm x 18.1 cm	8711500060129	060129 00

**Electrical installation notes****Mains operation**

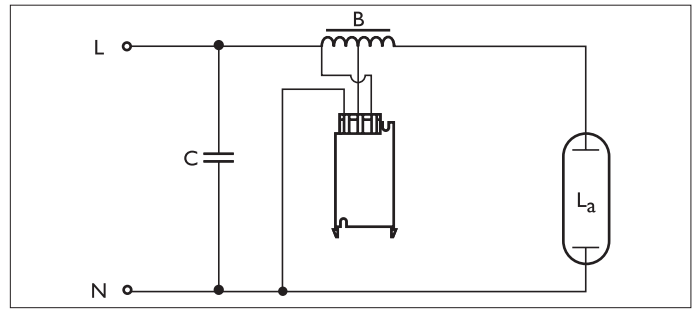
With tolerances for performance	-8%...+6%
With tolerances for operation	-10%...+10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

**Mechanical installation notes****Wire cross-section:**

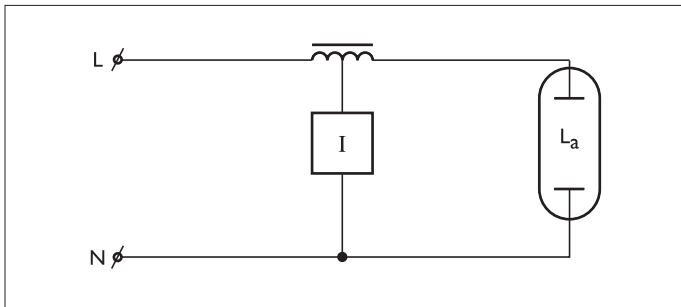
On the mains side	0.75...2.5 mm <sup>2</sup>
Strip length	6 mm



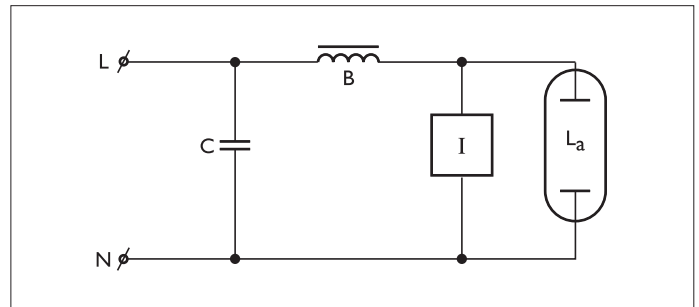
SN 56/SN 59



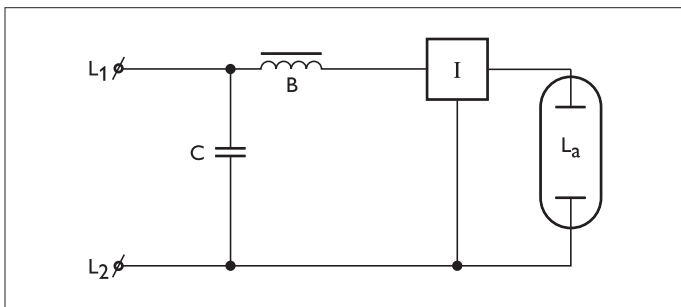
SN 61



SI 52



SI 54



Series ignitor





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BSX

### Product Description

- Impregnated electromagnetic copper/iron gears for use with an external ignitor for SOX and SOX-E lamps

### Features and Benefits

- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped with double-insert contacts
- Simple installation and cabling
- Gears for alternative mains voltages/frequencies on request

### Applications

- Ideal for the following applications:
  - Road lighting, railway marshalling yards and crossings, airports, harbors and docks, quarries, foundries and rolling mills
  - Security and orientation lighting
- Climatic suitability: use in luminaires or poles under normal humidity conditions (not drip-proof)

### Quality

Philips Quality assures optimum quality regarding:

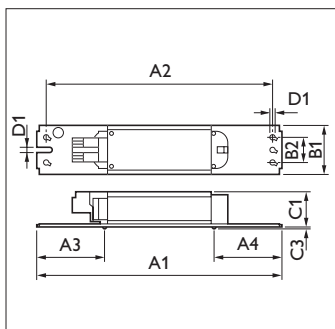
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

### Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

### Recommended lamp page 3.170

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BSX

Type	A1Nom	A2Nom	A3Nom	A4Nom	B1Nom	B2Nom	C1Nom	C3Nom	D1Nom
BSX 26/35 + 35/55	196.0	180.0	54.0	54.0	39.0	20.0	28.0	1.5	4.2

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BSX 26 L80 220V 50Hz	1	26	9.1	50	220	130	55	0.16
BSX 26 L81 230V 50Hz	1	26	9.4	50	230	130	55	0.16
BSX 26 L82 240V 50Hz	1	26	9.8	50	240	130	55	0.16
BSX 35 L80 220V 50Hz	1	35	11.3	50	220	130	60	0.22
BSX 35 L81 230V 50Hz	1	35	11.7	50	230	130	60	0.22
BSX 35/55 L204 240V 50Hz	1	35/55	9.3	50	240	130	60	0.23
BSX 35/55 L82 240V 50Hz	1	35/55	12.0	50	240	130	65	0.22

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSX 26 L80 220V 50Hz	0.77 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500943965	920461 30
BSX 26 L81 230V 50Hz	0.77 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500943996	920492 30
BSX 26 L82 240V 50Hz	0.77 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944023	920515 30
BSX 35 L80 220V 50Hz	0.925 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944054	920478 30
BSX 35 L81 230V 50Hz	0.925 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944085	920508 30
BSX 35/55 L204 240V 50Hz	0.87 kg	6	19.6 cm x 13.3 cm x 11.1 cm	8711500061300	915177 30
BSX 35/55 L82 240V 50Hz	0.925 kg	24	27.8 cm x 23 cm x 13.5 cm	8711500944115	920539 30

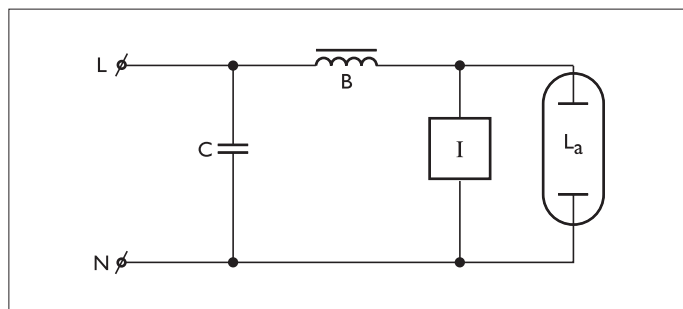
**Electrical installation notes**

Mains operation

- With tolerances for performance -8% / +6%
- With tolerances for operation -10% / +10%
- Operation frequency (typical) 50 Hz
- Power factor with specified capacitor 0.85

**Mechanical installation notes**

- Wire cross-section:
  - On the mains side 0.75-2.5 mm<sup>2</sup>
  - Strip length 6 mm



BSX



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BSX

### Product Description

- Encapsulated electromagnetic copper/iron gears for use with an external ignitor for SOX and SOX-E lamps

### Features and Benefits

- Outstanding product life
- Excellent resistance to chemical attack, humid conditions and high environmental stress crack resistance
- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Equipped with screw terminal blocks
- Simple installation and cabling
- Gears for alternative mains voltages/frequencies on request

### Applications

- Ideal for the following applications:
  - Road lighting, railway marshalling yards and crossings, airports, harbors and docks, quarries, foundries and rolling mills
  - Security and orientation lighting
- Climatic suitability: use in luminaires or poles under normal humidity conditions (not drip-proof)

### Quality

Philips Quality assures optimum quality regarding:

- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

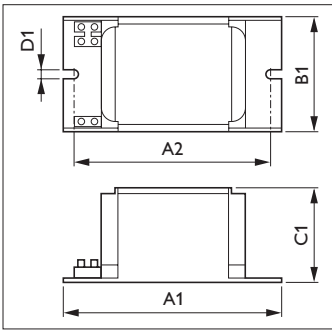
### Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

**Recommended lamp page 3.170**

**[www.philips.com/OEM](http://www.philips.com/OEM)**





BSX

Type	A1Nom	A2Nom	B1Nom	C1Nom	D1Nom
HID-HeavyDuty BSX 50Hz HD1-118	118.0	103.0	65.0	53.0	6.2

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)	Input current with PF-correct. (A)
BSX 35 L40 230V 50Hz	1	35	9.2	50	230	130	55	0.23
BSX 35/55 L32 240V 50Hz	1	35/55	9.6	50	240	130	65	0.23
BSX 90 L32 240V 50Hz	1	90	13.3	50	240	130	65	0.50
BSX 90 L40 230V 50Hz	1	90	12.2	50	230	130	65	0.50

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSX 35 L40 230V 50Hz	0.9 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061911	919991 31
BSX 35/55 L32 240V 50Hz	0.9 kg	6	20.8 cm x 13.4 cm x 11.4 cm	8711500061928	920003 31
BSX 90 L32 240V 50Hz	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061874	915344 31
BSX 90 L40 230V 50Hz	1.26 kg	6	20.8 cm x 13.9 cm x 11.4 cm	8711500061867	919939 31

**Electrical installation notes**

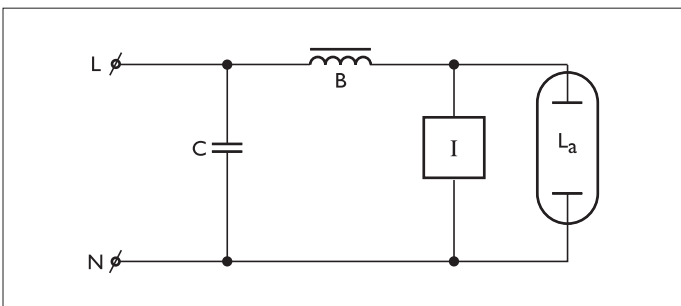
Mains operation

- With tolerances for performance -8% / +6%
- With tolerances for operation -10% / +10%
- Operation frequency (typical) 50 Hz
- Power factor with specified capacitor (minimum) 0.85

**Mechanical installation notes**

Wire cross-section:

- On the mains side 0.75-2.5 mm<sup>2</sup>
- Strip length 6 mm



BSX



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BSX

### Product Description

- Constant-wattage (potted) electromagnetic copper/iron gears for use with an external ignitor for SOX and SOX-E lamps

### Features and Benefits

- Compact dimensions and light weight with minimal watt losses, thanks to orthocyclic winding process
- Series capacitor required in circuits with constant-wattage gears
- Equipped with screw terminal blocks
- Simple installation and cabling

### Applications

- Ideal for the following applications:
  - Road lighting, railway marshalling yards and crossings, airports, harbors and docks, quarries, foundries and rolling mills
  - Security and orientation lighting
- Climatic suitability: restricted to built-in situations where relative humidity is limited

### Quality

Philips Quality assures optimum quality regarding:

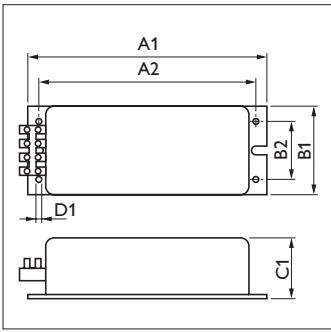
- System supplier: As manufacturers of lamps and electromagnetic control gear, Philips ensures that, from the earliest development stage, optimum lamp/gear performance is maintained.
- European standards: Philips HID electromagnetic gears comply with all relevant international rules and regulations.

### Compliances and approvals

Safety	EN 61347-2-9
Performance	EN 60923
RFI	EN 55015
Harmonics	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

**Recommended lamp page 3.170**

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BSX

Type	AINom	A2Nom	BINom	B2Nom	CINom	DINom
BSX 36 H66/55 H26 230-240V 50Hz	173.0	157.0	64.0	42.0	44.0	4.2
BSX 90 H26 220-230V 50Hz	173.0	157.0	64.0	42.0	52.0	4.2
BSX 91 135 H96 220-240V 50Hz	149.0	135.0	80.0	42.0	67.0	4.2
BSX 131 H96 220-240V 50Hz	178.0	162.0	100.0	42.0	74.0	4.2
BSX 180 H96 220-240V 50Hz	178.0	162.0	100.0	42.0	78.0	4.2

**Electrical data**

Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	T-winding	Delta-T normal conditions (°C)
BSX 36 H66 230-240V 50Hz	1	36	10.5	50	230-240	130	55
BSX 55 H26 220-230V 50Hz	1	55	19.5	50	220-230	130	70
BSX 90 H26 220-230V 50Hz	1	90	18.7	50	220-230	130	70
BSX 91 H96 220-240V 50Hz	1	91	16.5	50	220-240	130	55
BSX 131 H96 220-240V 50Hz	1	131	20.0	50	220-240	130	55
BSX 131 H96 220-240V 50Hz	1	131	22.5	50	220-240	130	55
BSX 135 H96 230-240V 50Hz	1	135	22.5	50	230-240	130	70
BSX 180 H96 220-240V 50Hz	1	180	32.0	50	220-240	130	70

**Ordering and packing data**

Type	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
BSX 36 H66 230-240V 50Hz	1.7 kg	12	27.5 cm x 21 cm x 17.5 cm	8711500938411	920034 30
BSX 55 H26 220-230V 50Hz	1.7 kg	12	27.5 cm x 21 cm x 17.5 cm	8711500932129	919960 30
BSX 90 H26 220-230V 50Hz	2.16 kg	10	33 cm x 20 cm x 13.5 cm	8711500932068	919908 30
BSX 91 H96 220-240V 50Hz	2.9 kg	8	35 cm x 18.5 cm x 15 cm	8711500932242	920393 30
BSX 131 H96 220-240V 50Hz	3.183 kg	6	27.5 cm x 20 cm x 12 cm	8711500932280	915245 30
BSX 131 H96 220-240V 50Hz	4.35 kg	4	42 cm x 20 cm x 8.2 cm	8711500932204	919786 30
BSX 135 H96 230-240V 50Hz	2.9 kg	8	35 cm x 18.5 cm x 15 cm	8711500932228	920072 30
BSX 180 H96 220-240V 50Hz	4.2 kg	4	42 cm x 20 cm x 8.2 cm	8711500932167	939005 30

**Electrical installation notes**

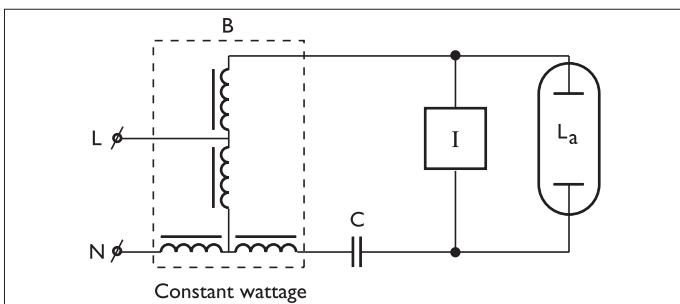
**Mains operation**

With tolerances for performance	-8% / +6%
With tolerances for operation	-10% / +10%
Operation frequency (typical)	50 Hz
Power factor with specified capacitor (minimum)	0.85

**Mechanical installation notes**

**Wire cross-section:**

On the mains side	0.75-2.5 mm <sup>2</sup>
Strip length	6 mm



BSX



HID-Basic BSN

**Definition**

Impregnated (HID standard) electromagnetic ballasts, of copper/iron construction, for use in combination with an external ignitor; for HID lamps.

**Description**

- Orthocyclic winding process results in limited ballast coil volume and reduced weight, with minimum watt losses
- Ballasts standard equipped with screw terminal blocks
- Earthing while-mounting facility (HID Standard ballasts)
- Simple installation and cabling.

**Product Features**

- Orthocyclic winding process results in limited ballast coil volume and reduced weight, with minimum watt losses
- Ballasts standard equipped with screw terminal blocks
- Earthing while-mounting facility (HID Standard ballasts)
- Simple installation and cabling.

**Applications**

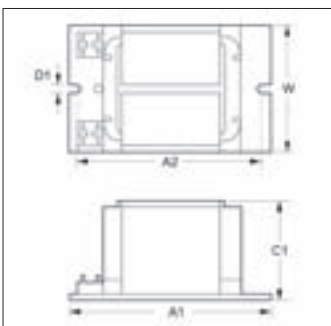
- For application with SON, HPI (PLUS) which are used in road lighting, public lighting, industry lighting
- HID basic ballasts should be restricted to built-in situations where relative humid is limited.

**Compliances and approvals**

- Safety EN 60922
- Performance EN 60923
- Quality standard ISO 9001
- Environmental standard ISO 14001
- CE Marking

**Recommended lamp page 3.170**

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HPL-N

Type	A1	A2	C1	DI	W
BSN70W	117	102	51.5	6.2	57.1
BSN100W	117	102	51.5	6.2	57.1
BSN150W	125	110	64.5	6.2	75.5
BSN250W	150	135	64.5	6.2	75.5
BSN400W	165	150	82.0	6.2	96.5

Data valid for typical lamps

Ballast	For lamps	Ignitor	Mains Vol./Freq.	Without PF Correction		With PF correction			Ballast Losses	Tw= 130°C Δt C	Wiring diagram Fig.
				Current Nom	cos Φ	Cap.	Mains Max. A.	Current Nom. A.			
				V/Hz	A	μF/V	A.	A.			
BSN70L300I	SON 70W	SN57	220/50	0.98	0.40	12/250	0.60	0.45	13.5	75	I
BSN70L300ITS	SON 70W	SN57	220/50	0.98	0.40	12/250	0.60	0.45	13.5	75	I
BSN70L301I	SON 70W	SN57	220/60	0.98	0.35	10/250	0.60	0.45	13.0	70	I
BSN70L302I	SON 70W	SN57	230/50	0.98	0.35	12/250	0.60	0.45	13.5	70	I
BSN70L304I	SON 70W	SN57	240/50	0.98	0.35	12/250	0.60	0.45	14.2	75	I
BSN100L300I	SON 100W	SN58(T5)	220/50	1.20	0.45	12/250	0.90	0.60	13.9	70	I
BSN100L301I	SON 100W	SN58(T5)	220/60	1.20	0.45	12/250	0.90	0.60	13.5	70	I
BSN100L302I	SON 100W	SN58(T5)	230/50	1.20	0.45	12/250	0.90	0.60	14.8	70	I
BSN100L304I	SON 100W	SN58(T5)	240/50	1.20	0.45	12/250	0.90	0.60	15.8	70	I
BSN150L300I	SON 150W	SN58(T5)	220/50	1.80	0.45	18/250	1.20	0.85	16.3	70	I
BSN150L301I	SON 150W	SN58(T5)	220/60	1.80	0.40	16/250	1.20	0.85	16.0	70	I
BSN150L301ITS	SON 150W	SN58(T5)	220/60	1.80	0.40	16/250	1.20	0.85	16.0	70	I
	CDM 150W	SN58T15									
	MH... 150W	SN58T15									
BSN150L302I	SON 150W	SN58(T5)	230/50	1.80	0.40	18/250	1.20	0.85	17.0	70	I
BSN150L302ITS	SON 150W	SN58(T5)	230/50	1.80	0.40	18/250	1.20	0.85	17.0	70	I
	CDM 150W	SN58T15									
	MH... 150W	SN58T15									
BSN150L304I	SON 150W	SN58(T5)	230/50	1.80	0.40	18/250	1.20	0.85	18.0	70	I
BSN 150L304ITS	SON 150W	SN58(T5)	230/50	1.80	0.40	18/250	1.20	0.85	18.0	70	I
	CDM 150W	SN58T15									
	MH... 150W	SN58T15									
BSN250L300I	SON 250W	SN58(T5)	220/50	3.00	0.45	32/250	2.30	1.40	22.2	70	I
BSN250L300I	HPI-Plus 250W	SN58	220/50	t.b.a.	0.45	32/250	2.30	1.40	22.2	t.b.a.	I
BSN250L301I	SON 250W	SN58(T5)	220/60	3.00	0.40	28/250	2.30	1.40	21.0	70	I
BSN250L301I	HPI-Plus 250W	SN58	220/60	t.b.a.	0.45	28/250	2.30	1.40	21.0	t.b.a.	I
BSN250L302I	SON 250W	SN58(T5)	230/50	3.00	0.40	32/250	2.30	1.40	22.7	70	I
	HPI-Plus 250W	SN58	230/50	t.b.a.	0.45	32/250	2.30	1.40	22.7	t.b.a.	I
BSN250L304I	SON 250W	SN58(T5)	240/50	3.00	0.40	32/250	2.30	1.40	24.5	70	I
	HPI-Plus 250W	SN58	240/50	t.b.a.	0.45	32/250	2.30	1.40	24.5	t.b.a.	I
BSN400L300I	SON400W	SN58(T5)	220/50	4.45	0.40	50/250	3.60	2.40	26.5	65	I
BSN400L300I	HPI-Plus 400W	SN58	220/50	t.b.a.	0.45	50/250	3.60	2.40	26.5	t.b.a.	I
BSN400L301I	SON400W	SN58(T5)	220/60	4.45	0.45	40/250	3.60	2.40	25.5	65	I
	HPI-Plus 400W	SN58	220/60	t.b.a.	0.45	40/250	3.60	2.40	25.5	t.b.a.	I
BSN400L302I	SON400W	SN58(T5)	230/50	4.45	0.40	50/250	3.60	2.40	30.0	70	I
	HPI-Plus 400W	SN58	230/50	t.b.a.	0.45	50/250	3.60	2.40	30.0	t.b.a.	I
BSN400L304I	SON400W	SN58(T5)	240/50	4.45	0.40	50/250	3.60	2.40	33.0	75	I
	HPI-Plus 400W	SN58	240/50	t.b.a.	0.45	50/250	3.60	2.40	33.0	t.b.a.	I

For compatibility reasons we advice to use ignitors with Chinese origin (those are available on request)

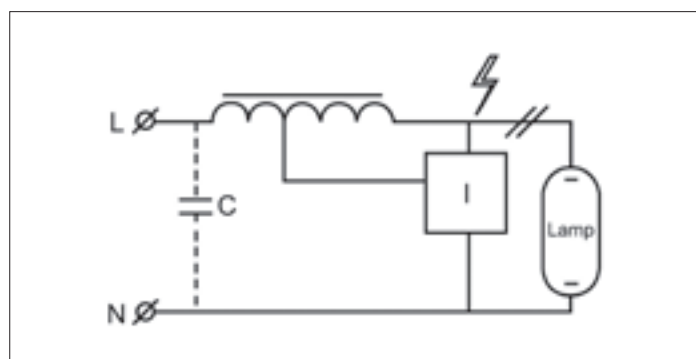
**Marking “designed by Philips Lighting B.V., the Netherlands”**

**Ordering and packing data**

Type	Weight	Carton packing Qty pcs	Carton packing Dimensions l x w x h cm	Weight gross kg	Pallet unit carton/pcs	EOC
BSN70L300I	1.1	6	18.2 x 12.5 x 13.3	7	630	871016303161330
BSN100L300I	1.2	6	18.2 x 12.5 x 13.3	7.5	630	871016303151430
BSN150L300I	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303088330
BSN250L300I	4.5	4	26.0 x 17.5 x 16.1	16.5	288	871016303091330
BSN400L300I	?	4	22.6 x 19.0 x 19.8	18.5		871016303094430
BSN70L301I	1.1	6	18.2 x 12.5 x 13.3	7	630	871016303477530
BSN100L301I	1.2	6	18.2 x 12.5 x 13.3	7.5	630	871016303476830
BSN150L301I	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303470630
BSN150L301ITS	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303472030
BSN250L301I	2.7	6	26.0 x 17.5 x 16.1	16.5	288	871016303471330
BSN400L301I	4.45	4	22.6 x 19.0 x 19.8	19	192	871016303473730
BSN70L302I	1.1	6	21.0 x 14.8 x 14.2	7	630	
BSN100L302I	1.2	6	18.2 x 12.5 x 13.3	7.5	630	871016303142230
BSN150L302I	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303129330
BSN150L302ITS	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303103330
BSN250L302I	2.7	6	26.0 x 17.5 x 16.6	16.5	288	871016303131630
BSN400L302I	4.3	4	22.6 x 19.0 x 19.8	19	192	871016303134730
BSN70L304I	1.1	6	21.0 x 14.8 x 14.2	7	630	
BSN100L304I	1.2	6	18.2 x 12.5 x 13.3	7.5	630	871016303148430
BSN150L304I	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303105730
BSN150L304ITS	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303115630
BSN250L304I	2.7	6	26.0 x 15.0 x 16.1	17.8	288	871016303107130
BSN400L304I	4.3	4	22.6 x 19.0 x 19.8	19	192	871016303109530

**Marking “Made in China”**  
**Ordering and packing data**

Type	Weight	Carton packing Qty pcs	Carton packing Dimensions l x w x h cm	Weight gross kg	Pallet unit carton/pcs	EOC
BSN70L300I	1.1	6	18.2 x 12.5 x 13.3	7	630	871016303160630
BSN100L300I	1.2	6	18.2 x 12.5 x 13.3	7.5	630	871016303150730
BSN150L300I	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303087630
BSN250L300I	4.5	4	26.0 x 17.5 x 16.1	16.5	288	871016303090630
BSN400L300I			22.6 x 19.0 x 19.8	18.5	192	871016303093730
BSN70L301I	1.1	6	18.2 x 12.5 x 13.3	7	630	871016303162030
BSN100L301I	1.2	6	18.2 x 12.5 x 13.3	7.5	630	871016303155230
BSN150L301I	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303119430
BSN150L301ITS	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303121730
BSN250L301I	2.7	6	26.0 x 17.5 x 16.1	16.5	288	871016303120030
BSN400L301I	4.45	4	22.6 x 19.0 x 19.8	19	192	871016303132330
BSN100L302I	1.2	6	21.0 x 14.8 x 14.2	7.5	630	871016303141530
BSN150L302I	1.85	6	18.2 x 12.5 x 13.3	11.5	504	871016303128630
BSN150L302ITS	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303102630
BSN250L302I	2.7	6	26.0 x 15.0 x 16.1	16.5	288	871016303130930
BSN400L302I	4.3	4	26.0 x 17.5 x 16.6	19	192	871016303133030
BSN1000L302I						
BSN70L304I	1.1	6	21.0 x 14.8 x 14.2	7	630	
BSN100L304I	1.2	6	18.2 x 12.5 x 13.3	7.5	630	871016303147730
BSN150L304I	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303104030
BSN150L304ITS	1.85	6	26.0 x 15.0 x 16.1	11.5	504	871016303114930
BSN250L304I	2.7	6	26.0 x 15.0 x 16.1	17.8	288	871016303106430
BSN400L304I	4.3	4	22.6 x 19.0 x 19.8	19	192	871016303108830



For full information on ignitors mentioned, please refer to separate product data sheet.



HID-Basic BHL

**Definition**

Impregnated (HID standard) electromagnetic ballasts, of copper/iron construction, for use in combination with an external ignitor, for HID lamps.

**Description**

- Orthocyclic winding process results in limited ballast coil volume and reduced weight, with minimum watt losses
- Ballasts standard equipped with screw terminal blocks
- Earthing while-mounting facility (HID Standard ballasts)
- Simple installation and cabling.

**Applications**

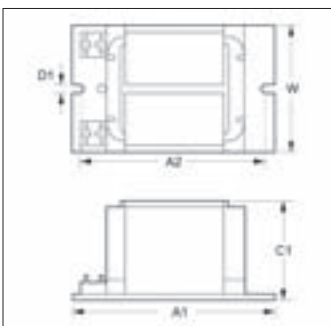
- For application with HPL, HPI and HPI (plus) lamps such as: industry lighting, flood lighting, sports lighting, shop lighting, public lighting, road lighting
- HID basic ballasts should be restricted to built-in situations where relative humidity is limited.

**Compliances and approvals**

- Safety EN 60922
- Performance EN 60923
- Quality standard ISO 9001
- Environmental standard ISO 14001
- CE Marking,

**Recommended lamp page 3.170**

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Type	A1	A2	C1	D1	W
BHL 125W	117	102	51.5	6.2	57.1
BHL 250W	125	110	64.5	6.2	75.5
BHL 400W	150	135	64.5	6.2	75.5



**Data valid for typical lamps**

Ballast	For lamps	Ignitor	Mains Vol./Freq.	Without PF Correction		With PF correction			Ballast Losses	Tw= 130°C Δt	Wiring diagram Fig.
				Current Nom	cos Φ	Cap.	Mains Max.	Current Nom.			
				V/Hz	A	μF/V	A.	A.			
BHL 125L200	HPL 125W	N.A.	220/50	1.15	0,55	10/250	1,1	0,7	12,2	70	1
BHL 125L202	HPL 125W	N.A.	230/50	1.15	0,55	10/250	1,1	0,7	13,0	70	1
BHL 125L204	HPL 125W	N.A.	240/50	1.15	0,55	10/250	1,1	0,7	13,7	70	1
BHL 250L200	HPL 250W	N.A.	220/50	2.13	0,55	18/250	2,2	1,35	17,0	65	1
	HPL 250W	SI51	220/50	2.15	0,55	18/250	2,2	1,35	17,0	65	2
BHL 250L201	HPL 250W	N.A.	220/60	2.13	0,055	15/250	2,2	1,35	15,5	65	1
	HPL 250W	SI51	220/60	2.15	0,55	15/250	2,2	1,35	15,5	65	2
BHL 250L202	HPL 250W	N.A.	230/50	2.13	0,55	18/250	2,2	1,35	18,5	75	1
	HPL 250W	SI51	230/50	2.15	0,55	18/250	2,2	1,35	18,5	75	2
BHL 250L204	HPL 250W	N.A.	240/50	2.13	0,55	18/250	2,2	1,35	20,0	75	1
	HPL 250W	SI51	240/50	2.15	0,55	18/250	2,2	1,35	20,0	75	2
BHL 400L200	HPI 400W	N.A.	220/50	3.25	0,60	25/250	3,9	2,15	21,8	70	1
	HPI 400W	SI51	220/50	3.40	0,55	28/250	3,9	2,15	23,8	75	2
BHL 400L201	HPI 400W	N.A.	220/60	3.25	0,60	20/250	3,9	2,15	20,0	70	1
	HPI 400W	SI51	220/60	3.40	0,55	25/250	3,9	2,15	22,0	75	2
BHL 400L202	HPI 400W	N.A.	230/50	3.25	0,60	25/250	3,9	2,15	21,8	70	1
	HPI 400W	SI51	230/50	3.40	0,55	28/250	3,9	2,15	23,8	75	2
BHL 400L204	HPI 400W	N.A.	240/50	3.25	0,60	25/250	3,9	2,15	23,0	70	1
	HPI 400W	SI51	240/50	3.40	0,55	28/250	3,9	2,15	25,0	75	2

For compatibility reasons we advice to use ignitors with Chinese origin (those are available on request)

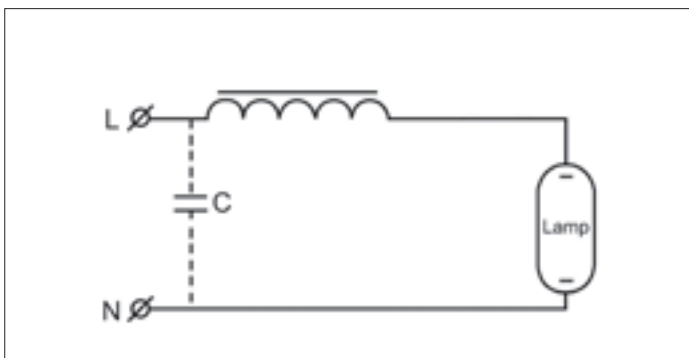


Fig. 1

For full information on ignitors mentioned, please refer to separate product data sheet.

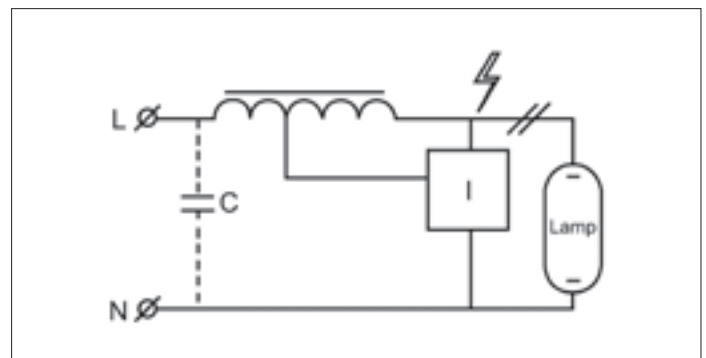


Fig. 2

**Marking “designed by Philips Lighting B.V., the Netherlands”**

**Ordering and packing data**

Type	Weight	Carton packing Qty pcs	Carton packing Dimensions l x w x h cm	Weight gross kg	Pallet unit carton/pcs	EOC
BHLI 25L200	1.2	6	18.2 x 12.5 x 13.3	9	630	871016303168230
BHL250L200	1.85	6	27.0 x 16.0 x 17.0	12.76	504	871016303097530
BHL400L200	2.9	6	26.0 x 17.5 x 16.1	17.8	288	871016303100230
BHL250L201	1.9	6	26.0 x 15.0 x 16.1	12	504	871016303468330
BHL400L201	2.75	6	26.0 x 17.5 x 16.1	18	288	871016303469030
BHLI 25L202	1.9	6	21.0 x 14.8 x 13.3	9	630	871016303169930
BHL250L202	1.9	6	26.0 x 15.0 x 16.1	12	504	871016303125530
BHL400L202	2.95	6	26.0 x 17.5 x 16.1	18	288	871016303113230
BHLI 25L204	1.22	6	18.2 x 12.5 x 13.3	9	630	871016303170530
BHL250L204	1.95	6	26.0 x 15.0 x 16.1	12	504	871016303111830
BHL400L204	2.95	6	26.0 x 17.5 x 16.1	18	288	871016303127930
BHLI 000L202	6	1	16.5 x 12.5 x 13.3	7		871016305800930

**Marking “Made in China”**

**Ordering and packing data**

Type	Weight	Carton packing Qty pcs	Carton packing Dimensions l x w x h cm	Weight gross kg	Pallet unit carton/pcs	EOC
BHLI 25L200	1.2	6	18.2 x 12.5 x 13.3	9	630	871016303167530
BHL250L200	1.85	6	27.0 x 16.0 x 17.0	12.76	504	871016303096830
BHL400L200	2.9	6	26.0 x 17.5 x 16.1	17.8	288	871016303099930
BHL250L201	1.9	6	26.0 x 15.0 x 16.1	12	504	871016303117030
BHL400L201	2.75	6	26.0 x 17.5 x 16.1	18	288	871016303118730
BHLI 25L202	1.9	6	21.0 x 14.8 x 13.3	9	630	871016303169930
BHL250L202	1.9	6	26.0 x 15.0 x 16.1	12	504	871016303124830
BHL400L202	2.95	6	26.0 x 17.5 x 16.1	18	288	871016303112530
BHLI 25L204	1.22	6	18.2 x 12.5 x 13.3	9	630	871016303170530
BHL250L204	1.95	6	26.0 x 15.0 x 16.1	12	504	871016303110130
BHL400L204	2.95	6	26.0 x 17.5 x 16.1	18	288	871016303126230





SUD 10-S/40-S

**Product Description**

- Electronic ignitors for HID lamps

**Features and Benefits**

- Available in semi-parallel (Pulse), series (Superimposed pulse) and parallel versions
- Ignitors ensure reliable and smooth starting behaviour
- Ignitors equipped as standard with screw terminal blocks
- Digital ignitors for highest reliability
- All T5 and T15 types incorporate timer to switch off ignitor after 5 or 15 minutes with failing lamp to prevent cycling
- Compact dimensions and light weight
- Simple screw or click-fit mounting, or stud mounting for rapid assembly

**Applications**

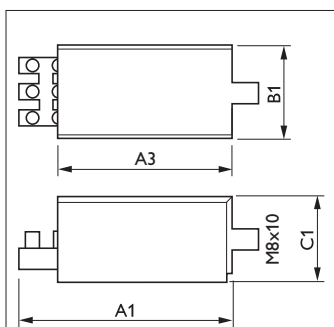
- Similar to those of the related lamps and gears

**Compliances and approvals**

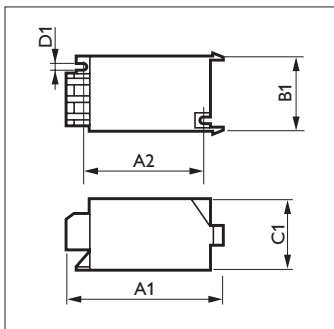
Safety	EN 61347-2-1
Performance	EN 60927
RFI	EN 55015
Harmonic current emissions	EN 61000-3-2
EMC immunity	EN 61547
Approval marking	ENEC
CE-marking	
Environmental standard	ISO 14001

**Recommended lamp page 3.170**

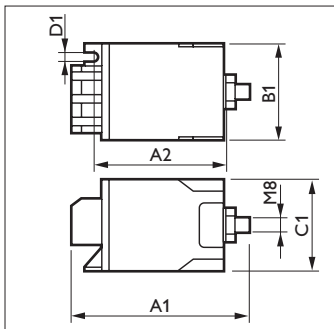
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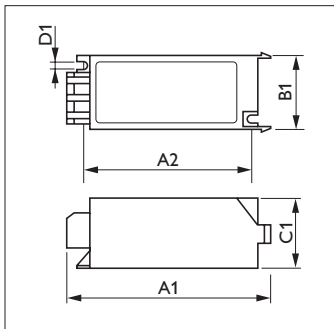
Type	A1Nom	A3Nom	B1Nom	C1Nom
SU 10-S \ SU 40-S	78.0	62.0	36.0	32.0
SUD 10-S \ SU 40-S	78.0	62.0	36.0	32.0



Type	AINom	A2Nom	BINom	CINom	DINom
SI 51 / SI 52 / SN 57 / SN 57T5 / SN 57T15 / SND 57 / SN 58 / SN 58T5 / SN 58T15 / SND 58	84.5	65.0	41.0	38.0	4.3
SX 131	85.5	-	41.5	38.5	-



Type	AINom	A2Nom	BINom	CINom	DINom
SND 57-S / SN 57T15-S / SI 51-S / SN 57-S	89.0	70.0	41.5	38.5	4.3



Type	AINom	A2Nom	BINom	CINom	DINom
SN 56 / SI 54 / SN 61 / SX 26 / SND 88	114.5	95.0	41.0	38.0	4.3



SND 88/89



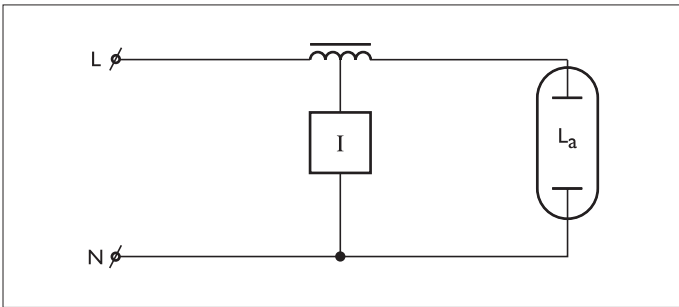
SN 58T5-S

**Electrical data**

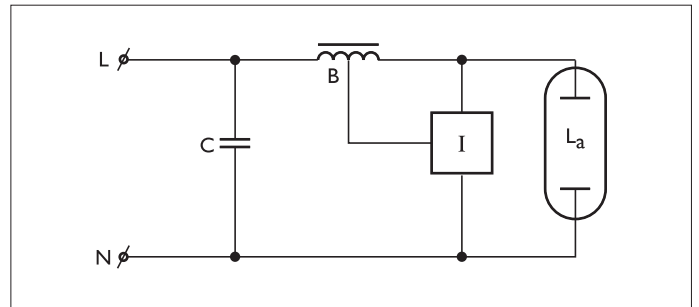
Type	Number of Lamps (x)	Rated Gear-Lamp Power	Power losses gear (W)	Line Frequency (Hz)	Line Voltage (V)	Response voltage (V)	T-case maximum (°C)	T-ambient	Ignition Voltage (kV)	Number of ignition pulses (x)	Cable-Cap wires device/lamp (nF)
SI 51 220-240V	1	250/400	1.0	50/60	220-240	190	80	-20/75	0.75	1	150
SI 51-S 220-240V	1	1000	1.0	50/60	220-240	190	80	-20/75	0.75	1	150
SI 52 220-240V	1	250/400	1.0	50/60	220-240	190	80	-20/75	0.75	1	35
SI 54 360-415V	1	2000	1.0	50/60	360-415	330	80	-20/75	1.5	1	120
SN 56 220-240V	1	1000/1800	1.0	50/60	220-240	198	60	-20/55	5.00	2	10
SN 57 220-240V	1	50/70	0.5	50/60	220-240	195	80	-20/75	2.50	2	2
SN 58 220-240V	1	35-400	0.5	50/60	220-240	190	90	-20/85	5.00	2	2
SN 59 220-240V	1	1000/1800	1.0	50/60	220-240	196	80	-20/75	5.00	2	4
SND 57-S 220-240V	1	50/70	1.0	50/60	220-240	195	80	-20/75	2.5	-	-
SND 57 220-240V	1	50/70	0.5	50/60	220-240	195	90	-20/85	5.0	-	-
SND 58 220-240V	1	35-600	1.0	50/60	220-240	195	80	-20/75	5.0	-	-
SND 88 400V	1	600	1.5	50/60	400	290	80	-20/75	5.0	-	-
SND 90 480V	1	600	1.5	60	480	370	80	-20/75	5.0	-	-
SN 57T15 220-240V	1	50/70	1.0	50/60	220-240	195	80	-20/75	2.50	2	1
SN 57T5 220-240V	1	50/70	1.0	50/60	220-240	195	80	-20/75	2.50	2	2
SN 58T15 220-240V	1	35-250	1.0	50/60	220-240	195	80	-20/75	5.00	2	1
SN 58T15-S 220-240V	1	35-250	1.0	50/60	220-240	195	80	-20/75	5.00	2	1
SN 58T5 220-240V	1	100-600	1.0	50/60	220-240	195	80	-20/75	5.00	2	2
SN 58T5-S 220-240V	1	100-400	1.0	50/60	220-240	195	80	-20/75	5.00	2	2
SN 61 220-240V	1	1000/1800	1.5	50/60	220-240	190	80	-20/75	5.00	1	4
SU 10-S 220-240V	1	50/70	1.0	50/60	220-240	198	105	-20/70	2.50	2	0.2
SU 40-S 220-240V	1	100-400	3.0	50/60	220-240	198	105	-20/70	5.00	2	0.2
SUD 10-S 220-240V	1	50/70	1.0	50/60	220-240	-	105	-20/70	2.3	-	-
SUD 40-S 220-240V	1	100-400	3.0	50/60	220-240	-	105	-20/70	5.0	-	-
SX 131 220-240V	1	131	1.0	50/60	220-240	198	80	-20/75	1.4	-	5
SX 26 220-240V	1	26/35	1.0	50/60	220-240	198	80	-20/75	1.0	-	5
SX 70 220-240V	1	90	1.0	50/60	220-240	198	80	-20/75	1.2	-	5
SX 72 220-240V	1	36/55	1.0	50/60	220-240	198	80	-20/75	1.0	-	5
SX 73 220-240V	1	180	1.0	50/60	220-240	198	80	-20/75	1.4	-	5
SX 74 220-240V	1	91/135	1.0	50/60	220-240	198	80	-20/75	1.4	-	2

## Ordering and packing data

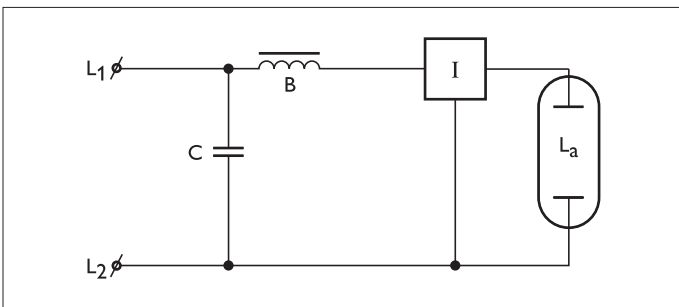
Type	EAN code 1 piece	Weight	Qty bulk packing	Dimensions bulk packing	EAN code bulk packing	EOC 8711500
SI 51 220-240V 50/60Hz	8711500915535	0.047 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908353	915535 30
SI 51-S 220-240V 50/60Hz	8711500747495	0.051 kg	20	20 cm x 17.5 cm x 11 cm	8711500747501	747495 30
SI 52 220-240V 50/60Hz	8711500915542	0.06 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908377	915542 30
SI 54 360-415V 50/60Hz	8711500915481	0.083 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500908339	915481 30
SN 56 220-240V 50/60Hz	8711500915603	0.078 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500907530	915603 30
SN 57 220-240V 50/60Hz	8711500915559	0.04 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500907547	915559 30
SN 57-S 220-240V 50/60Hz	8711500060525	0.042 kg	20	20 cm x 17.5 cm x 11 cm	8711500060532	060525 30
SN 58 220-240V 50/60Hz	8711500915566	0.04 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500907554	915566 30
SN 58-S 220-240V 50/60Hz	8711500741752	0.044 kg	20	20 cm x 17.5 cm x 11 cm	8711500741769	741752 30
SN 59 220-240V 50/60Hz	8711500915573	0.072 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500913487	915573 30
SND 57 220-240V 50/60Hz	8711500930668	0.05 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500930675	930668 30
SND 57-S 220-240V 50/60Hz	8711500930729	0.05 kg	20	20 cm x 17.5 cm x 11 cm	8711500930736	930729 30
SND 58 220-240V 50/60Hz	8711500930682	0.05 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500930699	930682 30
SND 58-S 220-240V 50/60Hz	8711500930705	0.053 kg	20	20 cm x 17.5 cm x 11 cm	8711500930712	930705 30
SND 88 400V 50/60Hz	8711500910349	0.07 kg	120	43 cm x 23.5 cm x 26 cm	8711500910356	910349 40
SND 89 400V 50/60Hz	8711500910363	0.07 kg	120	43 cm x 23.5 cm x 26 cm	8711500910370	910363 40
SND 90 480V 60Hz	8711500931740	0.062 kg	120	43 cm x 23.5 cm x 26 cm	8711500932006	931740 40
SND 91 480V 60Hz	8711500934062	0.064 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500934079	934062 30
SND 91 480V 60Hz	8711500934062	0.064 kg	120	43 cm x 23.5 cm x 26 cm	8711500934697	934062 40
SN 57T15 220-240V 50/60Hz	8711500744692	0.046 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500744708	744692 30
SN 57T15-S 220-240V 50/60Hz	8711500745972	0.048 kg	20	20 cm x 17.5 cm x 11 cm	8711500745989	745972 30
SN 57T5 220-240V 50/60Hz	8711500743152	0.046 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500743169	743152 30
SN 58T15 220-240V 50/60Hz	8711500743176	0.049 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500743183	743176 30
SN 58T15-S 220-240V 50/60Hz	8711500745934	0.049 kg	20	20 cm x 17.5 cm x 11 cm	8711500745941	745934 30
SN 58T5 220-240V 50/60Hz	8711500742995	0.046 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500743008	742995 30
SN 58T5-S 220-240V 50/60Hz	8711500745958	0.049 kg	20	20 cm x 17.5 cm x 11 cm	8711500745965	745958 30
SN 61 220-240V 50/60Hz	8711500916396	0.066 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500907585	916396 30
SU 10-S 220-240V 50/60Hz	8711500537836	0.14 kg	30	23 cm x 17 cm x 13 cm	8711500537843	537836 30
SU 40-S 220-240V 50/60Hz	8711500537911	0.15 kg	30	23 cm x 17 cm x 13 cm	8711500537928	537911 30
SUD 10-S 220-240V 50/60Hz	8711500931443	0.15 kg	30	23 cm x 17 cm x 13 cm	8711500931450	931443 30
SUD 40-S 220-240V 50/60Hz	8711500930354	0.15 kg	30	22.5 cm x 17 cm x 13 cm	8711500930361	930354 30
SX 131 220-240V 50/60Hz	8711500915894	0.065 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908230	915894 30
SX 26 220-240V 50/60Hz	8711500915900	0.081 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914385	915900 30
SX 70 220-240V 50/60Hz	8711500915498	0.086 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914378	915498 30
SX 72 220-240V 50/60Hz	8711500915610	0.081 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914361	915610 30
SX 73 220-240V 50/60Hz	8711500920058	0.06 kg	48	25.2 cm x 18 cm x 17.4 cm	8711500908209	920058 30
SX 74 220-240V 50/60Hz	8711500915696	0.09 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914354	915696 30
SX 76 220-240V 50/60Hz	8711500916402	0.094 kg	20	23.5 cm x 22.5 cm x 10 cm	8711500914330	916402 30



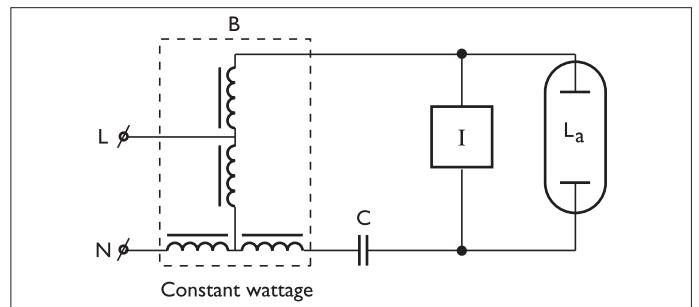
SI 52



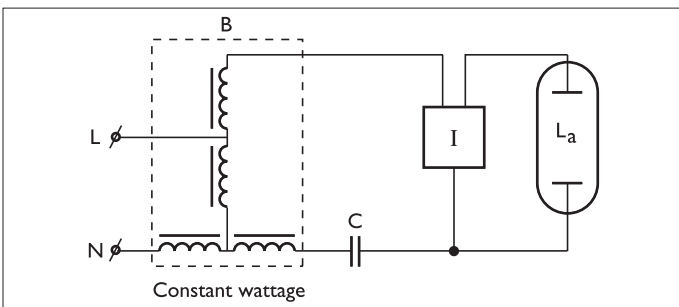
SN 50/56/57/57-S/58/58-S/59



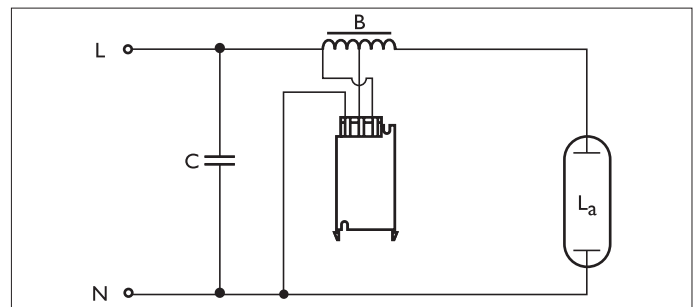
SU/SUD



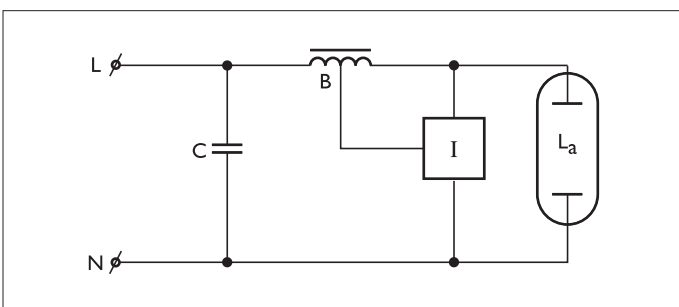
SX 70/72/74/76



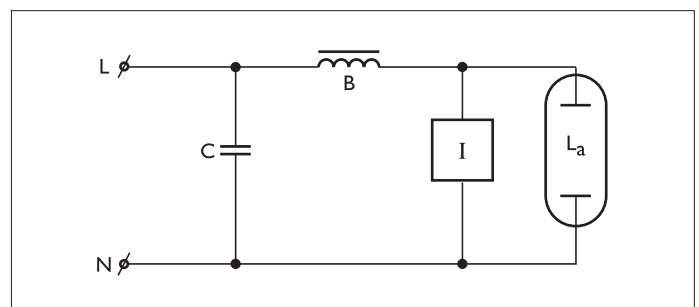
SX 131/73



SN 61



SND



SI 51/51-S/54





## Recommended HID Lamp and Gear combination

Lamp		Electronic solution	
Commercial name	Technical name	Dimmable electronic	Fixed-output electronic
MASTER CosmoWhite CPO-TW	CPO-TW 45W CPO-TW 60W CPO-TW 90W CPO-TW 140W	HID-DV LS-6/8/10 Xt 60 S CPO-TW	HID-PV Xt 45 S CPO HID-PV Xt 60 S CPO HID-PV Xt 90 S CPO HID-PV Xt 140 S CPO
MASTER Colour City CDO-T(T)/ET	CDO 70W CDO 100W CDO 150W	HID-DV 1-10V 070 S CDO HID-DV 1-10V 100 S CDO or HID-DV DALI 100-150 S CDO/SON/SDW HID-DV 1-10V 150 S CDO or HID-DV DALI 100-150 S CDO/SON/SDW	HID-PV 070 SON/CDO HID-PV 100 SON/CDO HID-PV 150 SON/CDO
MASTER SON-T PIA PLUS MASTER SON PIA PLUS MASTER SON-T PIA	SON 50W SON 70W SON 100W SON 150W SON 250W SON 400W SON 600W SON 600W-400V SON 1000W	HID-DV 1-10V 070 S SON HID-DV 1-10V 100 S SON HID-DV 1-10V 150 S SON	HID-PV 070 SON/CDO HID-PV 100 SON/CDO HID-PV 150 SON/CDO
SON-I	SON-I 50W SON-I 70W		
SON-H	SON-H 110W SON-H 220W SON-H 350W		
MASTER HPI PLUS	HPI PLUS 250W BU HPI PLUS 400W BU HPI PLUS 400W BUS		
HPI-T	HPI-T 1000W/230V HPI-T 2000W/220-240V HPI-T 2000W/380-415V		
HPL-N	HPL-N 50W HPL-N 80W HPL-N 125W HPL-N 250W HPL-N 400W HPL-N 1000W/230V		
MASTER MHN-SA	MHN-SA 1800W/230V MHN-SA 1800W/400V MHN-SA 2000W/400V		
MASTER MHN-LA	MHN-LA 1000W/230V MHN-LA 2000W/400V		
SOX	SOX 35W SOX 55W SOX 90W SOX 135W SOX 180W	EXC 035 EXC 055	
MASTER SOX-E	SOX-E 18W SOX-E 26W SOX-E 36W SOX-E 66W SOX-E 91W SOX-E 131W	EXC 036 EXC 066 EXC 091	

\* no Philips ignitor

Electro-magnetic solution		
Electro-magnetic gear	Ignitor	Capacitor
BSN 70 TS BSN 100 TS BSN 150 TS	SN(D) 57 SN(D) 58 SN(D) 58	12uF/250V 12uF/250V 18uF/250V
BSN 50 BSN 70 BSN 100 BSN 150 BSN 250 BSN 400 BSN 600 TS BSN 600 L 309 ITS BSN 1000	SN(D) 57 SN(D) 57 SN(D) 58 SN(D) 58 SN(D) 58 SN(D) 58 SN(D) 58 SND 88 / SND 89 SN 56 / SN 59	10uF/250V 12uF/250V 12uF/250V 18uF/250V 32uF/250V 45uF/250V 60uF/250V 20uF/450V 100uF/250V
BSN 50 BSN 70	- -	10uF/250V 12uF/250V
BHL 125 BHL 250 BHL 400	- - -	10uF/250V 18uF/250V 25uF/250V
BHL 250 BHL 400 BHL 400	SI 51 SI 51 -	18uF/250V 25uF/250V 25uF/250V
BHL 1000 BHL 2000 L78 BHL 2000 L76	SI 52 SI 52 SI 54	65uF/250V 125uF/250V 35uF/250V
BHL 50 BHL 80 BHL 125 BHL 250 BHL 400 BHL 1000	- - - - - -	7uF/250V 8uF/250V 10uF/250V 18uF/250V 25uF/250V 65uF/250V
BMH 1800 L78 BHD 2000 L76 BHD 2000 L76	SN56/SN59 380MZN2000 * 380MZN2000 *	200uF/250V 75uF/450V 70uF/450V
BSN 1000 BHD 2000 L76	SN56/SN59 380MZN2000 *	100uF/250V 65uF/450V
BSX 35 BSX 55 BSX 90 BSX 135 BSX 180	SX 26 SX 72 SX 76 SX 74 SX 73	ballasttype dependend, see technical data " " " "
BSX 18 BSX 26 BSX 36 BSX 66 BSX 91 BSX 131	SX 26 SX 26 SX 26 SX 76 SX 74 SX 131	" " " " " "



Office Hours  
Monday - Friday  
9:00 AM - 6:00 PM  
Saturday - Sunday  
10:00 AM - 4:00 PM  
Emergency Services  
24/7

**g**  
INDIA